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To the Graduate Council:

I am submitting herewith a dissertation written by Katherine Hope Morgan entitled "What Is Patient's Experience of Team-Based Interprofessional Collaborative Practice: A Concurrent Mixed Methods Study in Two Federally Qualified Health Centers (FQHCs) in Rural Appalachia." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Comparative and Experimental Medicine.

Kathleen Conroy Brown, Major Professor

We have read this dissertation and recommend its acceptance:

Cristina Barroso, Michael Bleich, Soghra Jarvandi, Elizabeth Strand

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

What Is Patient's Experience of Team-Based Interprofessional Collaborative Practice: A Concurrent Mixed Methods Study in Two Federally Qualified Health Centers (FQHCs) in Rural Appalachia

A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Katherine Hope Morgan
December 2018

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Dedication

This work is dedicated to my father, Hugh Whitford Morgan (1937-2016), and to my grandparents, Edna Earle (Hoover) Morgan (1910-2006) and Kenimer Houze Morgan (1908-1998). My father inspired me with his hard work, ability to draw upon his engineering and military education to inform his law practice, his loyalty to family and friends, and his dedication to helping others. My grandfather shared his love of literature, education, medicine, and French with me throughout my childhood and beyond. My grandmother demonstrated multiple life skills and modeled faith, gratitude, love, and giving to others. Without their inspiration and love, this work would not have been possible. I also dedicate this work to my mother, Margaret Houze Morgan, who has been supportive throughout my education, and to my children, Nathaniel David Morgan and Simon Anthony Morgan Zomchick.

Acknowledgments

I am deeply grateful to the patients who participated by sharing their stories, experiences and opinions with candor and concern for not only themselves and their own unique circumstances, but also for others in their community and how they might experience a new model of care. Special thanks are due also to the clinicians and administrators who approved this study and offered letters of support. These Federally Qualified Health Centers (names withheld to protect the anonymity of their patients who participated in this study) are changing lives and helping their patients through the health services they provide every day.

I would like to express my deep gratitude to Kathleen Conroy Brown, PhD, MPH, who served as my advisor and chair of my dissertation committee, for her support, guidance, and shared interest in improving the patient experience of care. Special thanks to each member of the committee: Cristina Barroso, DrPH, who taught me the joy of a good theory, Michael Bleich, PhD, RN, FAAN, for his expert reviews and discussions, Soghra Jarvandi, PhD, MD, MPH for her careful critique and advice; and Elizabeth Strand, PhD, LCSW for her guidance, review, and interest in improving the work lives of clinicians. I was delighted to be a doctoral student of the Comparative and Experimental Medicine (CEM) University of Tennessee, with special thanks to Stephen Kania, PhD, DVM, and Chair of the CEM and to Kimberly Rutherford, for administrative support. To the University Librarians are due special thanks: Melanie Allen, for her expertise in designing search terms and databases, Joy Chambers, for graphic design assistance, Rochelle Butler, for running thematic analysis in her NVivo Pro edition. Several faculty at the College of Nursing have been particularly supportive of my career and research: Dean Victoria Niederhauser, DrPH, RN, FAAN, on our HRSA grant, Karen Lasater, DNP, MSN, on our HRSA grant, Carole Myers, PhD, MSN, FAAN, who first told me of the CEM doctoral program, and Sandra Thomas, PhD, RN, FAAN, who provided peer reviews of this work with the Transdisciplinary Phenomenology Research Group at the University of Tennessee. Special thanks are due to Margaret Pierce, MSN, RN, who first introduced me to interprofessional education and team-based interprofessional collaboration.

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Special thanks go to the Health Resources Services Administration (HRSA) Advanced Nursing Education (ANE) Award (number D09HP28674), which funded the Interprofessional Education activities preceding this study, and to the Family Nurse Practitioner Faculty Liaisons, Barbara Elizabeth King, MSN, RN and April Bryant, MSN, RN, who were integrally involved in precepting and providing interprofessional care at both FQHCs.

The views expressed in this dissertation are the author's and not necessarily the views of the University of Tennessee or the College of Nursing.

Abstract

The prevalence and severity of chronic health conditions are on the rise worldwide. Persons living with chronic and complex conditions face serious sequelae, which may benefit from new approaches to prevention and treatment. This study explored how persons living with chronic conditions in a medically unserved area experienced team-based interprofessional collaborative practice (TBICP). Using a concurrent mixed methods approach, patients' experiences were captured through a survey and semi-structured interviews. Survey and interview data were analyzed separately through descriptive statistics and open, thematic coding, respectively. Surveys revealed high scores in patient-centered care (PCC) and a prevalence of positive answers to open-ended questions. Thematic analysis of interviews identified the overarching theme: *Two minds are better than one*, and subthemes included 1) *They listened to everything I had to say,* 2) *Let's go through the whole process,* 3) *There was* [sic] *minds coming together,* and 4) *I felt more confident that it would work for me.* Quantitative and qualitative results were triangulated and integrated. Through inductive analysis, findings were categorized as 1) Patient-Centered Care (PCC) Behaviors, 2) ICP Inquiry, 3) ICP Problem-Solving, and 4) ICP Consensus on a Plan of Care. A grounded theory is proposed in a model of "Team-Based ICP." This study presents evidence that TBICP can build powerful inquiry and problem-solving capacity, while placing the patient at the center of the team, practicing collaboratively, and building consensus on goals and planning. Patients said that the ICP plan of care addressed "all of my concerns," offered "more options," was more likely to be "accurate," and made them "feel better." Patients reported increased confidence that their individualized TBICP plan of care was efficacious.

Preface

The origins and development of interdisciplinary health care teams in the U.S. are traced from World War II successes with multidisciplinary medical and surgical teams to President Johnson's vision of The Great Society, in which the poor and underserved would have access to benefits of good health through the creation of community health centers located in areas of need. The concept of interdisciplinary teams of health professionals was espoused as a means for providing comprehensive and continuous care to such populations. This movement had significant implications for the education and training of future health professionals and both the federal government and philanthropic foundations have endeavored to effect changes in traditional disciplinary models.

DeWitt C. Baldwin, Jr. (2007, p.9)

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Chapter One: Introduction

The prevalence of chronic conditions in the United States of America (USA) and globally has presented such a challenge that healthcare organizations around the world are turning to new models of care. One such model is interprofessional collaborative practice (ICP). ICP occurs when “multiple health workers from different professional backgrounds work together with patients, families, carers, and communities to deliver the highest quality of care” (World Health Organization, 2010, p. 7). The terms ICP and interprofessional collaboration (IPC) are treated synonymously in the literature; for clarity, ICP is the preferred term throughout the rest of this discourse. Leaders at the forefront of healthcare reform recommend ICP for its ability to improve patient care and to meet the needs of increasingly complex patient populations with chronic conditions (Agency for Healthcare Research and Quality, 2015; Institute of Medicine Committee on Quality of Health Care in America, 2001; Nolte & Tremblay, 2005; Reeves, Pelone, Harrison, Goldman, & Zwarenstein, 2017; Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013; Robert Wood Johnson Foundation, 2015; World Health Organization, 2010, 2013). This study explores the experiences of patients who were cared for using *team-based* ICP (TBICP) in primary care as a new mode of patient care. TBICP is a form of ICP where professionals work with the patient and each other in real time, face-to-face, in an intentional and purposeful manner.

Background of the Problem

Chronic Conditions

Chronic conditions are rising in the USA, with an epidemic of obesity, type II diabetes (or high blood sugar), hypertension (high blood pressure), and hypercholesterolemia (high cholesterol), which can lead to adverse outcomes such as a shortened lifetime, heart disease, cancer, amputations, or other undesired sequelae (U.S. Census Bureau, 2015). One in four

Americans under the age of 65 has multiple chronic conditions (MCCs), and for persons aged 65 and above, this statistic rises to three out of four (Centers for Disease Control and Prevention, 2016). Chronic conditions cause seven out of 10 deaths in the USA (Centers for Disease Control and Prevention, 2017). In 2010, 86% of all healthcare spending in the USA went to the care of chronic conditions (J. Gerteis et al., 2014), placing financial strain on multiple stakeholders. The complexity and cost of multi-chronic conditions has advanced interdisciplinary approaches to care.

Primary Care

In the USA, the patients described above typically receive care from a primary care provider (PCP). When necessary, the PCP refers patients for specialized care with other types of healthcare professionals (examples include ophthalmologists, surgeons, dentists, physical therapists, and many others). Ideally, these specialists communicate with the PCP after their interaction by reporting the patient’s status and care plan either electronically or in paper form, which is then available online or mailed to the PCP. This communication process results in two main types of error: 1) communication, and 2) medication errors.

Communication Errors.

Lapses in communication occur when records with important medical information either are not sent from the PCP to the specialist or when they are not read in concert with the specialist’s consultative visit. Likewise, the reverse is also true where consultative recommendations made by the specialist may not be relayed to the primary care provider. In the mix of these communications, the patient is often left to provide the medical communication between the various health care providers (HCPs) (Phillippi et al., 2016; Taylor, Lake, Nysenbaum, Peterson, & Meyers, 2011). Phillippi et al. (2016) conducted a mixed methods study, which, among other findings, revealed that clinicians “agreed that it was difficult to create patient-centered plans of care solely through the electronic medical record and telephone conversations among providers” (p. 934). Further, patients reported relief at not being asked to relay information, which may be highly technical, from one provider to the next (Phillippi et al., 2016, p. 935).

Medication Errors.

Medication management is another source of complexity and problems for patients being treated for multiple conditions by multiple HCPs. The potential for a medication error is detected by pharmacists at the point of distribution who are tasked to communicate to the patient any potential conflicts between the medication regimens prescribed by different HCPs, provided the patient uses the same pharmacy to fill all prescriptions (Wiedenmayer, Summers, Mackie, Gous, & Everard, 2006). In the Patient-Centered Medical Home (PCMH) model of primary care (Agency for Healthcare Research and Quality, 2013), the community pharmacist provides medication management (Taylor et al., 2011). The pharmacist is one part of the patient’s complex “medical neighborhood,” meaning all those in the community with whom the patient interacts (p. 5). There are many clinical and caring or support services and HCPs in the patient’s medical neighborhood, thereby increasing access to care, but not necessarily in rural, underserved areas. In addition, there remains the problem of communication and coordination of care across services.

Statement of the Problem

People living in Appalachia have a high prevalence of chronic diseases, and the association between poverty and a lower life expectancy is stronger in Appalachia than elsewhere in the USA (Singh, Kogan, & Slifkin, 2017). The issues linked to living with multi-chronic conditions, coupled with care fragmentation and communication lapses between the different health professionals noted, have resulted in a need for interprofessional and team-based approaches to address the perplexing conditions linked to cancer, diabetes, hypertension, and obesity (Berwick, Nolan, & Whittington, 2008; Lamb, Zimring, Chuzi, & Dutcher, 2010; Mitchell et al., 2012; Reeves et al., 2017). While ICP has been employed across a variety of healthcare settings worldwide, patients' actual experiences with ICP have not been explored, particularly in outpatient, primary care settings. Instead, most studies center on the clinician's experiences, who often serve as proxy for the patient: studies of teams and teamwork have focused on the healthcare providers' perspectives (Lewin & Reeves, 2011) or quantitative treatment outcomes (Lewin & Reeves, 2011; Mitchell et al., 2012). The patient's experience of ICP is critically missing from the literature and is needed to guide quality improvement, efficacy, research, and practice. Given the heavy burden of chronic conditions and the shortened life expectancies associated with poverty in Appalachia, it is important to explore how patients experience TBICP as a model developed for this population exemplar.

The patient is uniquely situated to describe the phenomenon of this new care model, including its applications and limitations. As stakeholders and partners in care, patients can provide feedback to refine and improve upon ICP approaches. Given the emerging role of the patient as central to any healthcare encounter embodied in the concepts of *patient-centered* or *person-centered care* (discussed in Chapter 2), the voice of the patient is pivotal in improving the functioning of the healthcare team. Patient centered care "is respectful of and responsive to individual patient preferences, needs, and values, and ensur[es] that patient values guide all clinical decisions" (Institute of Medicine Committee on Quality of Health Care in America, 2001). This study brings the voice of the patient to the forefront, respecting their contribution to a developing care model before it becomes normalized.

Purpose of the Study

This study addresses the current gap in the literature by exploring the experiences of patients with multiple chronic conditions who were treated by ICP teams in rural Appalachian Federally Qualified Health Centers (FQHCs). These teams were trained to practice at a high level of interprofessional collaboration, using three criteria defined by the Interprofessional Education Collaborative (IPEC) Expert Panel (2011): 1) a team-based method was employed, 2) evidence-based practice guided care, and patient-centeredness was paramount to the services rendered. The purpose of this study was to explore patients' experiences of TBICP using a cross-sectional, mixed methods consecutive design (Cresswell, Fetters, & Ivankova, 2004). The patient's experience can inform, adapt, and guide improvement to the ICP model of care to those with complex or chronic conditions.

Conceptual Framework

This study was framed by "The Triple Aim" (Berwick et al., 2008). The Triple Aim provides rationale and a framework for healthcare reform. Its primary strategy is to address improvements in healthcare simultaneously across three initiatives: improving the care of populations, decreasing the cost of healthcare per capita, and improving the individual's experience of care (Chapter Two includes a more comprehensive discussion). While the ICP activity leading up to this study focused on teaching future health professionals how to work interprofessionally to improve the care of populations with chronic conditions, the focus of this study was the third goal of the Triple Aim, that of improving the individual patient's experience of care.

Research Questions

This study explored the lived experiences of persons living with chronic conditions who received primary care from an ICP team. Two research questions were asked:

1. How do persons with chronic conditions find value in the care delivered by an ICP team?
2. Would persons receiving care recommend ICP as a model?

Specific Aims

The specific aims of this study were as follows:

1. To measure and describe patient satisfaction with team-based ICP through surveys, and to further explore the patient's lived experience of the phenomenon through semi-structured interviews.
2. To integrate data from the mixed methods in order to make recommendations to improve team-based ICP as a new model of care.

Significance of the Study

This study explores patients' experiences, preferences, suggestions, and critiques based on their interaction with an ICP team. It explores how persons living in medically underserved populations with limited access to primary care providers (PCPs) and specialists, responded to an experience with an IPC team. The study findings should have broad implications for primary care ICP teams who care for patients with chronic conditions or complications.

Definition of Terms

An Interprofessional Team (as used in this study)

There are different understandings of what constitutes an interprofessional team or teamwork. In this paper an interprofessional teams adheres to the definition of the World Health Organization (2010) and includes intentional collaboration:

> Collaborative practice in healthcare occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings. (p.13)

Collaboration (as used in this study)

The keyword describing practice in the above WHO definition is *collaborative*, which figures centrally to this study. Collaboration is not the same as cooperation. Collaboration implies shared work and shared goals. This study adheres to Kinnaman and Bleich's (2004) definition of collaboration as a communication process that fosters innovation and advanced problem solving among people who

- are of different disciplines, organizational ranks, or institutional settings;
- band together for advanced problem solving;
- discern innovative solutions without regard to discipline, rank, or institutional affiliation;
- enact change based on a higher standard of care or organizational outcomes.

The process requires mutual respect, differing but complementary competencies, a distributive balance of power between the parties, and evidence of satisfying teamwork that results in change. Moreover, collaboration supports innovation when the team shares a common vision, even if the means of achieving a specific outcome are unclear (Kinnaman & Bleich, 2004).

Patient-Centered Care (as used in this study)

Patient-centered (or *person*-centered) care seeks to honor the individual person. In this study, patient-centered care was defined as including the following three considerations: 1) Involving the patient in the plan of care and considering their particular needs, values, and circumstances, 2) the quality of the relationship between the caregiver(s) and the patient, and 3) the context and environment, including access and barriers to care (Kitson, Marshall, Bassett, & Zeitz, 2013).

In this study, an interprofessional *team* describes a group of health professionals, from different disciplines, working together in collaboration, face-to-face, simultaneously, with the patient to provide a patient-centered care plan. Appendix A provides additional terms and acronyms frequently used in this paper.

Conclusion

In conclusion, this study offers what may be the first cross-sectional, mixed methods assessment of patient satisfaction and experience of ICP that was conducted during a student learner activity shared among four healthcare professional programs. The ICP activity occurred in remote, medically underserved regions of Appalachia in East Tennessee, where FQHCs offer primary care services. This study offers the patient's perspective and insights into the lived experience of TBICP.

Overview

Chapter One introduces interprofessional care and the gap in existing knowledge regarding patient experiences of ICP. Chapter Two includes a narrative review of the literature, providing further context to this study. Chapter Two also includes a focused consideration of 1,749 manuscripts abstracted from PubMed to describe the current state of ICP literature vis-à-vis the patient's experience in primary care. Chapter Three describes the overall research methodology and approach. Chapter Four reports the results of the patient surveys (including descriptive statistics and demographics) and the narrative themes, which emerged from the semi-structured interviews with patients. Chapter Five provides a discussion of the findings and suggestions for future research.

Chapter Two: Literature Review

Introduction

This chapter provides the background and insight necessary to understand the context in which this study explored the patient's experience of primary care delivered by an ICP student team. The chapter begins with a general discussion then narrows in its focus. First, a narrative review is presented to describe the background and framework, the topics related to the practice and delivery of IPE/ICP, and the gaps in the ICP patient experience literature. The narrative review describes the key terminology and concepts relevant to ICP, the context of the inquiry as framed by the Triple Aim (Berwick et al., 2008), and background pertinent to the regions and populations in which this study occurred. The articles included in the narrative review come from primary and secondary publications from the ICP and IPE literature as well as some policy and opinion articles relevant to the Triple Aim.

Second, a very focused review in the style of a scoping review is presented, which utilized specifically defined search terms in cooperation with a University librarian. It is recognized that a true scoping or systematic review follows specific guidelines and is conducted by two or more researchers. Therefore, the term scoping review is used loosely here to describe the methodological approach taken to review the literature. The scoping review became necessary because of the paucity of descriptions and explorations of patient experiences found in the ICP literature in primary care settings. The scoping review addresses the question: how has the patient's experience of interprofessional collaborative practice been explored in primary care settings? The search terms, methods, outcomes, and discussion of the scoping review are included at the end of this chapter.

Narrative Review

Background of Interprofessional Education and Collaborative Practice

Interprofessional education (IPE) and interprofessional collaborative practice (ICP) have gained momentum worldwide. While learning and practice are two different activities, they are conceptually linked with each other in terms of sharing the common goals and outcomes of improving healthcare education, delivery, and reform (Brandt, Lutfiyya, King, & Chioreso, 2014). Both IPE and ICP focus on intentionally working together across disciplines for the benefit of the patient. To translate ICP into practice, health professions are integrating interprofessional education (IPE) into their curricula (Brandt et al., 2014), with core competencies for IPE and ICP defined by the Interprofessional Education Collaborative (IPEC) (Interprofessional Education Collaborative Expert Panel, 2011). Examples of IPEC's competencies for IPE learners include:

> Place the interests of patients and populations at the center of interprofessional health care delivery… Engage diverse healthcare professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific patient care needs…Listen actively, and encourage ideas and opinions of other team members (pp. 19-23).

When IPE is applied in an interprofessional collaborative practice (ICP), this nexus of training, education, and practice is collectively referred to as IPE/ICP (Brandt et al., 2014). In their 2015 report, "Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes, the Institute of Medicine (IOM) noted that most studies to date have evaluated professional education programs and interventions, focused on student and clinician roles, and largely omitted data about experiences and outcomes for service users—patients and patient outcomes (2015).

Many IPE/ICP studies address the experiences and outcomes of clinicians and healthcare learners, but comparatively few focus on the patient's experience of ICP (Reeves et al., 2017). There is now the need to understand the patient's experience of ICP. Feedback from patient participants in ICP needs to be applied towards improving the design, application, efficacy, and outcomes of new modes of ICP approaches to care. A good example of this comes from the PCC literature. Bennett, Switzer, Aguirre, Evans, and Barg (2006) used a mixed methods approach to explore the experiences of women receiving prenatal care. Participants with low literacy levels were selected to explore the relationship between low literacy and lower levels of care or late access to care in pregnancy. Respondents discussed how overly complex and technical communication was alienating and led to lower use of healthcare, whereas communication that was broken down into smaller steps or pieces of information encouraged them to continue accessing care. Without a mixed methods inquiry into service users' experiences, important links between HCP behaviors and resulting patient behaviors might not have been made. This type of focused inquiry into problem solving has not yet been applied to ICP studies, particularly in the primary care setting.

Interdisciplinary teams of physicians, social workers, and nurses in India began traveling together to treat patients as early as 1900 (Baldwin, 2007; Solomon, 2010), but ICP was by no means a widespread practice. In the post-World War II era, it was envisaged that ICP would improve efforts to treat medically underserved populations in community healthcare centers (Baldwin, 2007). Since the middle of the 1970s, it has been recognized that IPE/ICP holds the potential to improve the delivery of care and thereby the treatment outcomes of healthcare efforts (Reeves et al., 2017; Reeves et al., 2008).

In 2001, the IOM published *Crossing the Quality Chasm*, which outlined frustrations and problems in healthcare voiced by clinicians and patients; one of the solutions put forth was a call for the intentional training of multidisciplinary care teams across healthcare professions (Institute of Medicine Committee on Quality of Health Care in America, 2001). After this publication, the practice of IPE/ICP increased worldwide, with multiple educational and practice interventions occurring; however, the patient's perspective was rarely included in the descriptions of IPE/ICP innovations.

In 2008, the Institute of Healthcare Improvement (IHI) published a position paper called "The Triple Aim: Care, Health, and Cost," in which Berwick et al. (2008) challenged the United Stated to simultaneously improve three facets of healthcare: 1) the health of populations, 2) costs per capita, and 3) the patient's experience of healthcare. The Triple Aim called for rethinking how primary care was delivered. Among many other changes in healthcare delivery, ICP and team-based care have become integral to attaining the Triple Aim (Bodenheimer & Sinsky, 2014; Lown, McIntosh, Gaines, McGuinn, & Hatem, 2016; Ryan, Brown, & Hutchison, 2016; Zink, Kralewski, & Dowd, 2017). ICP has been selected in particular for its capacity to improve the management and health outcomes of patients with complex or chronic conditions, which requires coordination of services across multiple healthcare professions.

In 2010, the World Health Organization stated in its report, "Framework for Action on Interprofessional Education and Collaborative Practice," that based upon 50 years of evidence, IPE/ICP improves the efficacy of treatment outcomes and strengthens healthcare systems. Most researchers accept that ICP holds great promise to reduce medical errors and improve patient outcomes, with some going so far as to view the traditional solo healthcare provider as posing a potential danger to the patient, due to the complexities of healthcare today (Mitchell et al., 2012).

A growing body of literature has accrued, which largely supports the efficacy of ICP. Martin, Ummenhofer, Manser, and Spirig (2010) reviewed 14 randomized clinical trials (RCTs) looking at the effects of IPC on patient outcomes and found that IPC improved patient outcomes in 13 out of 14 RCTs in comparison to the standard of care as usual, including increased survivorship by as much as 40% in one study compared to the solo healthcare provider (HCP) control group. What did these interprofessional teams do differently in their collaborative approaches to patient care, and how did their patients experience these differences? As with most studies implementing IPC, there was no patient voice: it is not known how patients experienced this mode of care, and what patients' suggestions, reservations, ideas, and observations would have been.

Some studies have explored limited aspects of patients' experiences. In their RCT, using ICP as the intervention, Berglund et al. (2013) explored 161 frail, older patients' perspectives of care in Sweden, where the care consisted of case managers who coordinated inpatient and home-based care, interprofessional care, and other services. Patients indicated, via Likert scale surveys administered in person, that the intervention (ICP care) was an improvement in the continuum of care in terms of planning and knowing whom to contact when the need arose. No open-ended questions were asked. Theirs is one of the few RCTs reporting any form of patient experience data in ICP research.

Körner et al. (2016) conducted a systematic review of studies whose approaches included using IP teamwork to care for patients with chronic conditions. Many desirable increases in biometric or health outcome variables were noted, but only one study reported increased patient empowerment and participation in care. Of the 23 articles meeting their inclusion criteria, it was the only one including patient feedback. In the remaining 22 studies, clinicians and students provided the feedback, by giving their perceptions of patient satisfaction rather than asking patients to provide feedback.

In its most recent report on ICP, “Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes,” the IOM recommends new studies, in particular mixed methods studies inquiring into the experiences and outcomes of service users—in other words, does ICP improve health experiences and measurable treatment outcomes of patients (Institute of Medicine, 2015)?

Defining Teams, Teamwork, and Collaboration

ICP can mean many different things, encompassing widely varying practices. Definitions of teams and teamwork, including those used to describe multiple professionals, are used so interchangeably that each author must effectively define these terms anew. Some define a team as being all healthcare providers involved in the care of a patient, across all professions and services, whether those HCPs are known to one another or not (LaDonna et al., 2017). While the most common descriptor in the literature is “multidisciplinary,” the use of this term does not imply working together or collaboration among disciplines (Chamberlain-Salaun, Mills, & Usher, 2013).

By contrast, the term “interprofessional,” as noted in Chapter One, implies intentional collaboration among professionals. Several definitions of interprofessional collaborative teams are widely used in the ICP literature and include those of the World Health Organization (WHO) and the Interprofessional Education Collaborative (IPEC). WHO defines an interprofessional educational component, called IPE, as necessary to becoming proficient at working in collaboration, “when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes” (2010, p. 7). Having undergone IPE, the learner is then ready to practice collaboratively. WHO defines ICP by emphasizing “collaborative practice,” as previously described in Chapter One. IPEC further defines interprofessional collaboration by specifying the constructs of intentionality and group identity as central to the most advanced form of ICP, which is called *interprofessional team-based care* (Interprofessional Education Collaborative Expert Panel, 2011):

> Interprofessional team-based care: Care delivered by intentionally created, usually relatively small work groups in health care, who are recognized by others as well as by themselves as having a collective identity and shared responsibility for a patient or group of patients, e.g., rapid response team, palliative care team, primary care team, operating room team (p. 2).

In other words, when health professionals recognize themselves as members of a group who share a mental model, training, and purpose, then they are best equipped to practice at the most advanced level of team-based ICP. Shared training and mental models coupled with collaboration [as in Kinnaman and Bleich (2004)] are the ideals of TBICP. Such preparation, qualities, and characteristics are commonly missing from the literature describing multidisciplinary or ICP interventions. Instead, many studies described as interprofessional are actually some variation of parallel practice or care as usual: in these studies, teams have not undergone interprofessional or team-based training, and do not describe any deliberate interactions or shared activities among the professionals involved, such as multidisciplinary team meetings to plan for the care of patients.

Researchers have begun to investigate how ICP team models can be applied to primary care. What components, however, are necessary to define a successful model of IP teamwork? Brown et al. (2015) conducted a mixed methods study of 17 Family Health Teams, including a grounded study to define themes associated with high functioning teams, which was followed by evaluating 19 teams according to the themes identified. The themes are not defined by categories, but rather they are exemplified by direct quotes from the narratives and include: 1) *common philosophy toward teamwork; 2) scope of practice [recognizing and utilizing each member's scope of practice]; 3) EMR use* [electronic medical record]; *4) physical environment (team location & space allocation); 5) activities for team building (formal & informal); 6) conflict resolution; 7) change management strategies; 8) effective leadership; and 9) team evolution* (p.193). Mulvale, Embrett, and Razavi (2016) identified a functional description of successful interprofessional primary care teams, which resulted in a conceptual model of gears—these gears affect the relative success of any ICP efforts (e.g., gears include policy makers, organizational managers, care teams, and health professionals). Mulvale et al. identified that a shared team vision and goals are critical, along with the feeling, on the part of each professional, of positivity towards ICP, and of "being included" on the team. Having processes for sharing information and evaluating their efforts were also identified as necessary components of success.

Saint-Pierre, Herskovic, and Sepulveda (2017) defined and described a typology of collaboration for interprofessional teams in primary care, wherein preliminary data would suggest that collaboration between disciplines improves primary care outcomes (Saint-Pierre et al., 2017). They conducted a qualitative systematic review of collaborative practices among different health care professionals in primary care to determine which professions collaborated, how they collaborated, and which collaborations affected treatment outcomes. Of the articles meeting their selection criteria, 52% reported positive treatment results for ICP interventions compared to solo HCP care as usual, while 16% reported no differences, and 32% presented no data on this measure. Members of successful ICP teams worked interdependently, shared leadership rather than following hierarchal patterns. These professionals shared a sense of having mutual goals and practiced reflective exercises after interventions to recount or evaluate their activities. These outcomes may extend and exemplify the IPEC definition of interprofessional collaboration as a working model.

By contrast, some studies do not adhere to the above definitions published by WHO and IPEC. An example of this is found in Supper et al. (2015), entitled, “IPC in Primary Healthcare: A Review of Facilitators and Barriers Perceived by Involved Actors,” which both: 1) included articles without more than one profession; and 2) stated that due to controversy about the effectiveness of the role of the APRN and the prevalence of nurses in IPC studies, any publications including nurses were excluded from their systematic review. The role of the PA in primary care was not mentioned. They included studies without a dimension of interprofessionality and excluded the profession most commonly participating in ICP, nursing.

In their conceptual framework, Boon, Verhoef, O'Hara, and Findlay (2004), define a continuum of healthcare team practice styles from least collaborative to most integrative--practicing in “parallel” or side-by-side in the same setting, to the most highly collaborative form of ICP, “integrative” care. In their model, the highest level, integrative care is described as professionals from multiple disciplines working together laterally, and “seamless[ly],” with mutual respect and a shared vision of health and purpose, “within the context of a shared, synergistically charged plan of care” (Boon et al., 2004, p. 3). Boon et al. offer highly descriptive definitions of different levels of practice from individualistic, to highly team-oriented. Their definitions are extremely apt; however, they generate one point of confusion when they place "collaborative" very low on the scale towards independent practice, where it lacks the highly purposeful intention of ICP teams as described by IPEC (2011). Their framework might have been much more useful, and possibly more universally applied within the ICP literature, if the terms used had more closely mirrored the intent and meaning found commonly in practice. Today the descriptor "collaboration" figures centrally to interprofessional teams practicing at the height of team-based care.

One of the most encompassing and insightful description of teams, team values, and necessary components and activities of teams can be found in the IOM's discussion paper, "Core Principles & Values of Effective Team-Based Health Care" (Mitchell et al., 2012). In their discussion, Mitchell et al. (2012) outline many of the operational principles discovered in the previously-described studies, such as the need for teams in health care, shared values, clear roles and duties with flexibility and non-hierarchical leadership, trust, communication, and some form of team evaluation and patient outcomes evaluation for process improvement. Mitchell et al., agree that patient involvement is central to team activities.

One of the most widely adapted working models of teamwork can be found in "Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS)©" (Agency for Healthcare Research and Quality, 2015). This model is rooted in human factors science and has been applied across various high stakes industries such as the military, nuclear power, and the airlines. More than 25 years of research have demonstrated its success (Agency for Healthcare Research and Quality, 2015). TeamSTEPPS© states that most human errors occur in the domains of *communication, leadership, mutual support*, and *situation monitoring*, rather than a lack of expertise or other causes; therefore, teams can learn, train, and drill to adopt common values and behaviors within each of these four skill sets. The guiding philosophy is that anyone can learn the necessary skills within each domain to reduce errors and improve performance quality and safety.

Patients' Voices are Missing from the Literature

A single systematic review (including a meta-analysis) exists in the ICP literature comparing patient satisfaction between ICP interventions versus care as usual (Wen & Schulman, 2014). Wen & Schulman investigated RCTs conducted in hospitals. Twenty-seven studies met their inclusion criteria, with 15,526 participants. In these trials, patient satisfaction was usually evaluated by asking a single question, such as, "How do you rate the hospital overall," or "How do you rate your overall satisfaction?" In those studies reporting dichotomous data, there was a higher rate of patient satisfaction among the ICP intervention group versus *care as usual* (OR 2.09, 95% CI, 1.54 to 2.84); however in another seven studies reporting continuous data, no significant differences were found between interventions and controls (Wen & Schulman, 2014). Wen and Schulman's study points to the need for further studies of patient satisfaction. It also demonstrates the lack of deeper inquiry into what defines the patient experience, and the need to use patients' definitions to determine those constructs. Their study population included hospitalized patients and asked them to rate, on a Likert scale, one single measurement of patient satisfaction. As previously mentioned in Chapter One, patient satisfaction may be based upon patient experiences, and while these concepts often overlap, experience and satisfaction are not equivalent concepts.

No systematic review of the IPE/ICP literature has focused exclusively on patients' experiences following an ICP intervention, possibly because so few studies have been published. The impact of ICP on patients' experiences in primary care settings is of interest. One study includes data regarding patient experiences of ICP: in their review of the IPE/ICP literature from 2008-2013, Brandt et al. (2014) searched for studies that measured all three outcomes of the Triple Aim (population health, cost, and patient experience). Brandt et al. found that only 16.5% of the papers meeting their search criteria addressed one of the three triple aims, and 100% of those addressed some aspect of patient experience or satisfaction. The authors noted that the patient's perspective was missing from the IPE/ICP literature, such that there is little description of the care received by patients. Further, only two of the studies addressed population health, another arm of the Triple Aim. Brandt et al. did not describe how patient experience or satisfaction were measured or described in the studies they reviewed.

Several ICP studies address topics such as quality of care and improved treatment outcomes, but the descriptions and outcomes are based on expert opinion as given by clinicians or by their student learners. Very little exists in the published literature that describes the patient's own words, and their reflections, perspectives, and evaluations, where the patient determined what was important rather than others. For example, there are a few patient inventories conducted on the effects of the ICP intervention in a specific disease or condition, e.g., were patient's weights decreased or depression scales lessened? These types of inventories focus on treatment effects, which have been linked to patient satisfaction. There were also patient satisfaction scores, though very few, which asked specific questions on a Likert-type scale regarding measures that are generally accepted to relate to patient satisfaction. However, satisfaction and experience while closely linked and overlapping are not identical in definition. Several experiences may go into determining the level of satisfaction a patient has, and sometimes gratitude for health services may outweigh dissatisfaction.

In primary care as usual (without ICP), satisfaction has been measured nationally in the USA by questionnaires using Likert scales, one of which is the Clinicians and Groups-Consumer Assessment of Healthcare Providers (CG-CAHPS) Version 2.0 “Visit Survey” (Agency for Healthcare Research and Quality, 2015; Centers for Medicare & Medicaid Services, 2017). The CG-CAHPS surveys the patient’s ability to receive an appointment in a timely manner, to access care, the amount of time spent in the waiting room, demeanor of the staff, cleanliness, and state of the physical facility, and behaviors and qualities of the HCP. The results of these surveys are kept in a national database and can be used as a reference point for comparison across time or between clinics on multiple measures. Such questionnaires are generally accepted to be equivalent to some measure of how *patient-centered* an experience was. The concept of PCC focuses on the needs of the patient and has been defined as follows: safe, effective, patient-centered, timely, efficient, and equitable (Institute of Medicine Committee on Quality of Health Care in America, 2001). Constructs central to PCC (Table 2.1) were defined by the Picker Institute (M. Gerteis, 1999), and operationalized to equate to patient satisfaction (Agency for Healthcare Research and Quality, 2016b).

Recently, the AHRQ published the CAHPS® Patient Narrative Elicitation Protocol (2016a), which can be added to the survey to obtain patients’ written responses to open-ended questions regarding primary care providers, staff, and healthcare organizations. The AHRQ acknowledges that there may be a gap between the data collected by CAHPS® (and other quantitative surveys) and how patients actually define satisfaction and quality of care (2016a). The AHRQ describes their narrative questions as having been designed and vetted with patients to constitute a “scientifically rigorous approach to gathering patient narratives,” and these questions can be administered with or without the CAHPS survey.

Table 2.1. Picker Institute's Eight Concepts of Patient-Centered Care

1. **Respect for patients' values, preferences, and expressed needs**
2. **Coordination and integration of care**
3. **Information, communication and education**
4. **Physical comfort**
5. **Emotional support and alleviation of fear and anxiety**
6. **Involvement of family and friends**
7. **Continuity and transition**
8. **Access to care**

To date, patient experience has been determined quantitatively by measuring whether a clinic or activity was patient-centered, held after-hours care, or included timely access to an appointment (Ryan et al., 2016), and other suggested measurements of patient experience typically include whether or to what extent an experience was *safe, equitable, timely,* and *efficient* (Institute of Medicine Committee on Quality of Health Care in America, 2001; Stiefel & Nolan, 2013). Ryan et al. (2016) looked at 17 primary care clinics organized into "family health teams" in Canada to determine the extent to which family health services were meeting The Triple Aim. The authors concluded that new ways of measuring patient experience are necessary and cited Stewart (2001), who wrote that the patient should be the one to describe their experiences and preferences.

Existential Phenomenology

This study is conceptually influenced by existential phenomenology, which explores the narratives of human experience. Existential phenomenology was described originally by Husserl and later by the French philosopher, Merleau-Ponty, among others (Valle & King, 1978)--to determine what factors or figures highly in a person's mind when they describe an experience—in other words, what is important to the person? The field of phenomenology is a philosophical science rooted in existentialism; as such it delves into matters beyond what can be observed or measured empirically such as emotions (Valle & King, 1978). Phenomenology is an inductive, descriptive science, which seeks to identify what a person finds important, or figural in another, an object, or an experience (Vivilaki & Johnson, 2008). Phenomenology is the study of a person's experience or consciousness and the meaning a person places on the experience of that phenomenon (Smith, 2018). Maurice Merleau-Ponty was a 20th century French philosopher who emphasized that the existence of the body precedes the existence of thought and that the body figures centrally to the person's experience of being (Hass, 2008). A person's discussion and description of their *lived experiences* and their *life-world* indicates what factors or figures highly in their mind—in other words, what the patient describes about a phenomenon is what matters most to the patient (S. P. Thomas, 2005), and one's experience is highly colored by who they are, how they think, their attitudes, opinions, education, culture, and history. The lived experience or phenomenon is played out against the background or context of the *Body, Time*, *Other People* and the *World* (S.P. Thomas & Pollio, 2002). Merleau-Ponty's philosophy can be adapted to explore how patients describe the phenomena they encounter in healthcare. Applying existential phenomenology should prove highly congruous with the approach of PCC by seeking to listen very attentively to patients' experiences, who thereby define what is important to them, using their own terminology and constructs.

Scoping Review

The paucity of published studies exploring patients' experiences of interprofessional care led to a more extensive search of the literature in an effort to find *any* qualitative or mixed methods studies in primary care. Very few studies, regardless of methodology, were found. Studies that appeared at first glance to include patient data instead reported clinicians' observations or hypothetical statements from patients who had not actually experienced ICP. Therefore, it became necessary to conduct a stringent review of the literature to determine whether the present study was truly the first to investigate the patient's experience of ICP in primary care. It was not, but the present study was found to be unique in that it is the only *mixed methods* investigation of ICP in primary care, and it is one of only two to investigate *TBICP* in a population of primary care patients with chronic conditions. To place this study within the context of the present field of interprofessional research and practice, a brief scoping review of all comparative studies is presented.

Design and Search Strategy

This scoping review focuses upon patients' experiences of interprofessional care conducted by an IPE or ICP activity in a primary care setting. It was conducted from fall 2017 through February 2018, within PubMed (National Center for Biotechnology Information (NCBI), [1988-2018]) made available through the University of Tennessee Libraries online. It focused on primary care IPE or ICP interventions, carried out among two or more professions. Selection for inclusion included any clinically based IPE or ICP activity taking place in primary care and followed by an exploration of patients' experiences, perspectives, reactions, or evaluations of interprofessional collaboration. Only primary research was included.

The criteria for inclusion in this review were that a published article must include an IPE or ICP clinical experience, after which patient experiences were reported. The IPE/IPC clinical experience had to involve some description of collaboration between two or more different professions (e.g., social work and physical therapy), rather than *care as usual* by a solo HCP. Solo or "uniprofessional" providers exploring primary care "teams" with staff were excluded. Additional inclusion criteria were that a study had to 1) occur fully or partially in a primary care setting; 2) include patient experience or satisfaction evaluations, perspectives, or interviews (either qualitative or quantitative); and 3) be written in English. Inclusion and exclusion criteria are listed in Appendix B.

The focus of this part of the literature review was to determine, if over the past two decades (surrounding publication of the Triple Aim in 2008), any studies have focused on the patient's experience of ICP? In consultation with a university research librarian, the following search terms and constructs were selected to find studies describing a dimension of interprofessionality, patient experience, or patient satisfaction, which were published between the years 1997 to 2017. Appendix B lists the medical subject headings (MeSH) and Boolean terms.

Many studies were excluded, because they did not pertain to actual collaborative work, but rather they described parallel work without collaboration, or care as usual by one type of HCP who was training with staff to work more closely as a team. Such papers included descriptors such as interprofessional, multiprofessional, or interdisciplinary "team"; however, there was no discernable team training, team relationship, or professional activities shared by members of the team that could indicate collaboration. This review takes the perspective that having a relationship with the patient without having any working relationship, association, or intentional communication system does not constitute collaborative care, but rather care as usual by separate professions (care as usual is often referred to as "silos" in the literature, with each silo referring to a separate discipline). To be considered an interprofessional collaborative practice, health care professionals must work together, in some fashion, to share ideas and develop a unified plan of care.

With one exception, this review also omits “integrated” care, a specialized form of ICP in which a primary care professional, such as a general practice physician, works either in a parallel or more collaborative fashion with a behavioral health specialist practicing in the same organization. Because of the more specialized subset of the integrated care literature and history, it was excluded from this study. Admittedly, this may be an artificial exclusion that should be revisited in future systematic reviews. One study regarding depression was included, however, because it occurred in a primary care setting for comparing *care as usual* to ICP incorporating behavioral specialists and pharmacists with the general practitioner (Richards et al., 2013).

Non-primary care settings excluded by the search criteria included home health, community health, a university research clinic, palliative care, cancer tumor boards, hospitals, and emergency departments. Of the nine articles meeting all inclusion criteria (Table 2.1), IPE or ICP was offered for the following conditions or purposes: diabetes, back pain, depression, chronic or complex conditions, acute care needs, and Medicare health assessments. The results of the scoping review are available in Appendices C and D. Nine studies met the search criteria. Of these, five address specific diseases and conditions. They are interesting; however, they do not focus on the model of care, but rather on the disease or condition, which is beyond the scope of this study. The remaining four studies are relevant to the research aims of the present study: two use quantitative methods to assess patient satisfaction with ICP, and two explore the patient experience of ICP using qualitative methods. Each is described in the subsequent sections.

ICP in Chronic or Complex Conditions

In The Netherlands, van Dongen, Habets, Beurskens, and van Bokhoven (2017) explored the experiences of patients who took part in interprofessional team meetings (IPTMs). van Dongen et al. define IPTM as occurring when three or more professionals, each from different disciplines, work together on care plans for a number of patients with the particular purpose of setting goals for the care of each patient (Canadian Interprofessional Health Collaborative, 2010; Mulvale et al., 2016). Their qualitative study was triangulated by three points of reference as follows: field notes from observations of the IPTMs completed by the researchers, interviews with patients and their relatives, and interviews with HCPs. Interviews were conducted immediately after the IPTMs concluded. This research group has been exploring the role of the patient in IPTMs (J. J. J. van Dongen, M. de Wit, et al., 2017; J. J. J. van Dongen, I. G. J. Habets, et al., 2017; J.J.J. van Dongen et al., 2017), and patients, caregivers, or family members are not always included in IPTMs. In this study, patients were successfully integrated into the meetings, which occurred in eight different clinics, using contacts within the researchers' acquaintance, with eight different types of patient populations. Only one of those seven settings took place in a family practice setting. Some of the others included nursing homes, a hospital, and residential care. Patients were particularly pleased by the communication between different professionals and having the opportunity to participate and contribute to the conversations. However, some patients did not want to participate in the IPTM, either because they wanted the professionals to make the recommendations, or because for some, the number of professionals present was daunting. The majority of study participants, who were patients and professionals, agreed that every professional contributing significantly to the patient's care should be present during an IPTM.

S. N. Shaw (2008) studied the experiences of patients with chronic conditions receiving care from primary care interprofessional teams in an urban medical center run by a teaching hospital in Toronto, Canada. A strength of this study is that it was conducted in a patient population with more than one experience of ICP, although the duration and number of experiences were not described. The study population had chronic conditions and was cared for by ICP primary care teams including physicians, registered nurses, medical residents, pharmacists, and dieticians. Under their model of ICP, the patient saw a different member of the ICP team every one to two months, and the HCPs planned for the patient during monthly interprofessional case conferences, without the patient. Shaw conducted semi-structured interviews of seven patients. For the purposes of triangulation, interviews were conducted with three clinicians, and Shaw took notes during two observations of interprofessional case conferences. Questions posed included what works well during ICP, what could be improved, what do patients hope for from ICP, and logistically speaking how does it work? Shaw used open coding to analyze the narratives. Patients' attitudes towards ICP were overwhelmingly positive, with one patient stating, "If the tendency is in the direction of teams then 'hooray!'" Shaw identified eight themes, including patient-centeredness and coordination of care across professions. The overarching theme was, *More than one dollop of cortex,* and every patient was noted to appreciate having more than one mind working together. Findings are further synthesized into the following categories: 1) 'The Three A's*: Affability, Accessibility, and Ability*,' 2) *Family physicians as interprofessional health team leaders*, and 3) *Patient-centered care* (p. 232). Shaw's study supports ICP as a worthwhile new mode of care, especially for patients with chronic conditions, although some acute conditions (e.g., sore throat) were deemed better served by a solo healthcare provider. Patients in Shaw's study were notably concerned that coordination of care be maintained and that the family physician function as the team leader.

Medicare Annual Wellness Assessments.

Zorek et al. (2015) started a university interprofessional teaching clinic. Their pilot study explored whether ICP increases patient use of preventive services, such as updating or initiating vaccines (e.g. pneumococcal and herpes zoster), cancer screening (e.g. colonoscopy and mammography), and many biometric measures (e.g. lipid panel and densitometry). Patient recruitment was inadequately described, except to say that all patients were naïve to Medicare's Annual Wellness Visit (AWV) and were eligible beneficiaries of Medicare. Thirty-four patients participated. ICP was conducted as follows: students from pharmacy and medicine worked together with the clinic nurse, pharmacist, and attending physician to develop a plan of care, which was delivered to the patient as a team. The article provides no description of IPE occurring prior to the practice of ICP. Patient satisfaction was measured via a quantitative survey with 13 questions, scored with a Likert scale of 1 to 5, where 1=strongly disagree, and 5=strongly agree. The mean composite score was $\geq$ 4.7, showing a high level of satisfaction for ICP. Utilization of preventative care services (PCS) was found to be 91% higher on 10 out of 11 measures ($p<.05$ for all PCS comparisons) evaluated in the ICP group as compared to control (a randomly selected group of 68 patients who were also AWV naïve). This pilot study offers preliminary evidence of ICP efficacy and patient satisfaction, tied to improved health seeking behaviors.

ICP for Acute Conditions.

Lawrence, Bryant, Nobel, Dolansky, and Singh (2015) studied patient satisfaction in a student-run free clinic (SRC) at Case Western Reserve University. The SRC is described as an interprofessional clinic, where pre-licensure nursing and medical students see patients together. Students are provided with a four-hour training session including orientation to the clinic, their electronic medical record, and how to give a report to a preceptor, but no IPE training was provided. The clinic opens twice monthly to offer free care to the medically underserved of urban Cleveland, Ohio on an acute, walk-in basis. Most of the patients at the SRC were referred by another free clinic, The Free Medical Clinic of Greater Cleveland, which is not run by students and sees patients with acute needs, rather than having an appointment. The non-student run clinic utilizes solo HCPs, giving care as usual, and it served as a comparator, or a control, for the SRC IPE/ICP clinic. Over 10 months, patients at both clinics were administered the Health Center Patient Satisfaction Survey (US Department of Health and Human Services, 2009). Of the 28 items on this Likert-scored survey from 1 to 5, (where 1=poor, 4=good, and 5=great), 24 of the 28 items were scored between "good" and "great." There was no statistical difference in the high levels of patient satisfaction between the SRC IPE/ICP clinic (n=87) and the non-student/non-ICP clinic (n=40). The SRC was rated statistically lower than the non-SRC clinic regarding keeping personal information private and the likelihood of recommending the clinic to friends or relatives, (US Department of Health and Human Services, 2009). The lower scoring was attributed to the greater number of students and ICP clinicians interacting with patients at the SRC, which were hypothesized as potentially appearing "superfluous" to patients. The findings in this study demonstrate that IPE students can run a successful walk-in ICP clinic under the guidance of their attending physician or nurse practitioner preceptor, and they can do so while achieving patient satisfaction scores that are equal to those achieved by solo practitioners in a similar clinic. It is also important to note that patients are concerned about their privacy when more clinical staff are involved in their visit. The ICP teams in this study were not educated or trained in a shared mental model of IPC or teamwork and collaboration.

Summary of Findings from Scoping Review

The above nine studies offer a baseline of understanding and comparison for some aspects of patient experiences and satisfaction with IPC. In summary, six of the nine studies meeting inclusion criteria and containing qualitative data noted that patients described improvements in some concepts related to PCC. Additionally, in Shaw (2008), several unique themes were identified related to ICP teams in primary care of adults with chronic conditions. Adults in Shaw's study stated very positive attitudes toward ICP.

Notably the two ICP studies involving student-run clinics did not include any team-based training or IPE other than placing students from different professional training programs together in an IP clinical setting. Despite the lack of IP or team-based training, these IPE/ICP teams were able to achieve patient satisfaction scores either equivalent to or exceeding the scores of clinics providing care as usual (non-ICP approaches). The IPE/ICP studies did not include a qualitative approach.

Additional quantitative patient satisfaction surveys across multiple IPE and ICP activities would provide greater information about patient satisfaction with primary care ICP. Patients are known to rate healthcare highly on national surveys (Centers for Medicare & Medicaid Services, 2017). How will ICP patient surveys compare to national averages for solo HCPs? Will they also receive high patient satisfaction ratings? Given that there is very little data regarding patient satisfaction in primary care ICP, it is not surprising that there is also very little qualitative research to date. Many questions remain to be explored.

While most of the above studies explored patient satisfaction or experience as a means of improving upon the delivery and outcomes of a focused ICP intervention, inquiring into patient experience has become a meaningful measure of its own, regardless of the particular healthcare situation or circumstance the patient has experienced (Black & Jenkinson, 2009). Through semi-structured interviews analyzed with open coding and thematic coding, S. N. Shaw (2008) comes closest to exploring the life-world of the patient more so than any of the other studies mentioned in this review.

Lown et al. (2016) state that patients and their families should be involved in the development of new team-based treatment modalities, in the education of healthcare providers and, “co-designing health care processes to provide compassionate, collaborative care” (p.311). Carr, Worswick, Wilcock, Campion-Smith, and Hettinga (2012) best accomplished this with a back pain study, which identified some very interesting and useful new models of learning and training in new models of care by involving the patient from the ground level.

With patient-centered care at the forefront of healthcare reform (Institute of Medicine, 2015), and the importance of improving the patient’s experience of healthcare in the Triple Aim (Berwick et al., 2008), the current lack of evidence regarding patients’ experiences of ICP constitutes a critical barrier for clinical interventions, research studies, and educational activities in interprofessional care (Brandt et al., 2014; Cheong, Armour, & Bosnic-Anticevich, 2013a, 2013b; S.N. Shaw, 2008).

Conclusion

This chapter identified the process used for a comprehensive review of the literature linked to the two research questions posed. Research results linked to ICP as a care delivery model were described. There is a body of literature in ICP that deals with disease-specific conditions and these are described briefly to acknowledge their existence and to document that the focus of research has been disease-based, fails to capture the voice of the patient, and supports the need for research that examines the care delivery model.

Chapter Three: Methodology (Mixed—Quantitative & Qualitative)

Introduction

This chapter describes the approach taken to answer the two research questions of the current study: 1) *How do persons living with chronic conditions find value in the care delivered by an ICP team,* and 2) *Would persons receiving care recommend ICP as a model?* A mixed methods design was used, as the first question examines the voice of the patient, necessitating a qualitative design. The quantitative approach was used to analyze data from a patient satisfaction survey. Together this convergent mixed methods design identified trends in quantitative survey data, and then triangulated these with richer descriptions, definitions, and contextual meaning captured in semi-structured patient interviews (Cresswell, 2015; Cresswell et al., 2004). Patients' quantitative and qualitative responses to the phenomenon of TBICP, offered different types of data for triangulation, the practice of combining two or more perspectives or sources of data to reach a conclusion (Cresswell, 2015; Cresswell & Plano Clark, 2011).

To avoid errors of overgeneralization that may occur in mixed methodologies (Blaikie, 2000; Bourgeault, Dingwall, & de Vries, 2010), this study combined and contrasted data in a manner true to the original intent of triangulation—when multiple items are used to "measure an item [as on a survey] or a dimension of an item" (Blaikie, 2000, p. 265). Triangulation of data from different sources can result in findings which converge, complement, or diverge from the results of any one source of data (Tashakkori & Teddle, 2003). For example, scores from Likert items and open-ended answers on the survey were compared to each other and to thick descriptions, which emerged from patients' narratives regarding their ICP experience. Researcher observations served as another source of data. Any discrepancies occurring between the methodologies, "inter-method discrepancy," can point to new questions or lines of research

(Bourgeault et al., 2010). These methods are supported by the IOM's call for qualitative or mixed methods inquiries to be applied to IPE/ICP interventions (2015).

Research Design

As introduced above, a convergent mixed methods study design (Cresswell, 2015; Cresswell et al., 2004; Cresswell & Plano Clark, 2011) was selected for this study, combining cross-sectional patient surveys and semi-structured narrative interviews (Figure 3.1). This approach offered the advantage of capturing and measuring patient experience, allowing for analysis of congruity between the two differing types of data sets, with the qualitative interviews offering more in-depth, detailed explanations of how patients experienced TBICP, which would not have been represented on the survey. Descriptive statistics provided a quantitative assessment, which when visually represented in charts and graphs, capture patients' initial responses to constructs related to PCC, experience, and satisfaction. Transcripts of interviews were analyzed using open coding and thematic analysis to identify important themes. These themes were illustrated by excerpts from the transcripts in the patient's own words. Finally, the findings from the surveys and the thematic analysis of narratives were compared and integrated.

IPE Training Preceding the Study

Because authors use the words "team" and "collaborate" to describe so many different practice models of interprofessional care, a description of how the ICP teams in this study were trained and how they worked with patients at the FQHCs is presented. The particular model of TBICP followed forms the basis of the phenomenon experienced by patients in this study. Quantitative and qualitative data are analyzed separately, then contrasted and combined for more comprehensive descriptions.

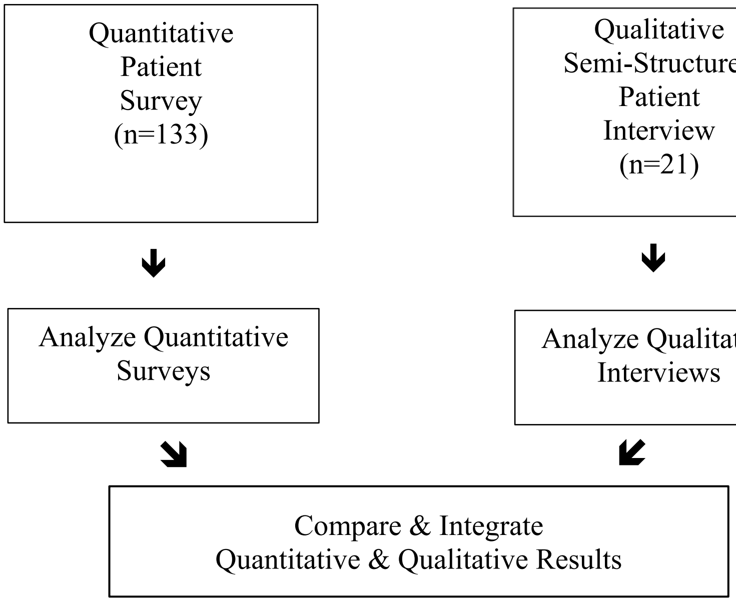


Figure 3.1. Convergent mixed methods design.

Preceding this study, an IPE program was taught at the University of Tennessee. Students were recruited or assigned by faculty from their programs of advanced practice nursing (FNP concentration), nutrition, pharmacy, and public health. These students completed multiple independent readings, followed by a five-hour interprofessional education training session that included simulation with standardized patients-- actors who are trained to play the role of a patient and give feedback to HCP trainees. Students were trained using a model called, "Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS©)" (Agency for Healthcare Research and Quality, 2015). TeamSTEPPS© incorporates patient-centered values and promotes four skills, which are requisite to excellent outcomes among teams: *communication, leadership, mutual support,* and *situation monitoring*. These four strategies are practiced through the actions of *briefing*, which is sharing information and planning for the team activity, followed by *huddling* to discuss the steps and strategies moving forward, and finally *debriefing*, which includes discussing what happened, how it happened, and how to improve team actions in the future (Table 3.1). Through team activities and discussion, students also explored concepts of patient-centered care (PCC). The final training activity included practicing TeamSTEPPS© and PCC in simulations of team-based patient encounters with patients. The standardized patients presented with three or more chronic conditions (e.g., diabetes II, hypertension, and hypercholesterolemia) that required consideration and an acute exacerbation that required immediate clinical attention, compounded by other conditions. Working as a team, students implemented briefing, huddling, and debriefing. The simulated patients participated in debriefing to share how they felt and responded to IP team-based care as a patient.

Interprofessional Practice During the Study (An Operational Description)

After training (as described above), ICP teams provided team-based care in the two FQHCs of this study. Figure 3.2 depicts the details of this model by demonstrating how the team worked with the patient, faculty, and the HCP/Preceptor, which formed the basis for the patient's experience of team-based ICP in this study. Teams worked together at one of the two sites, either A or B, for four days per team. The team was accompanied by one faculty member from nursing, nutrition, pharmacy, or public health. The work of the team was facilitated by the FNP Faculty Liaison, who worked both in a clinical teaching role at the University and as a HCP two days per

Table 3.1. TeamSTEPPS© Model of Skills and Activities

Skills	**Team Activities**
Communication	Brief (planning)
Leadership	Huddle (problem solving)
Mutual Support	Debrief (quality improvement)
Situation Monitoring	

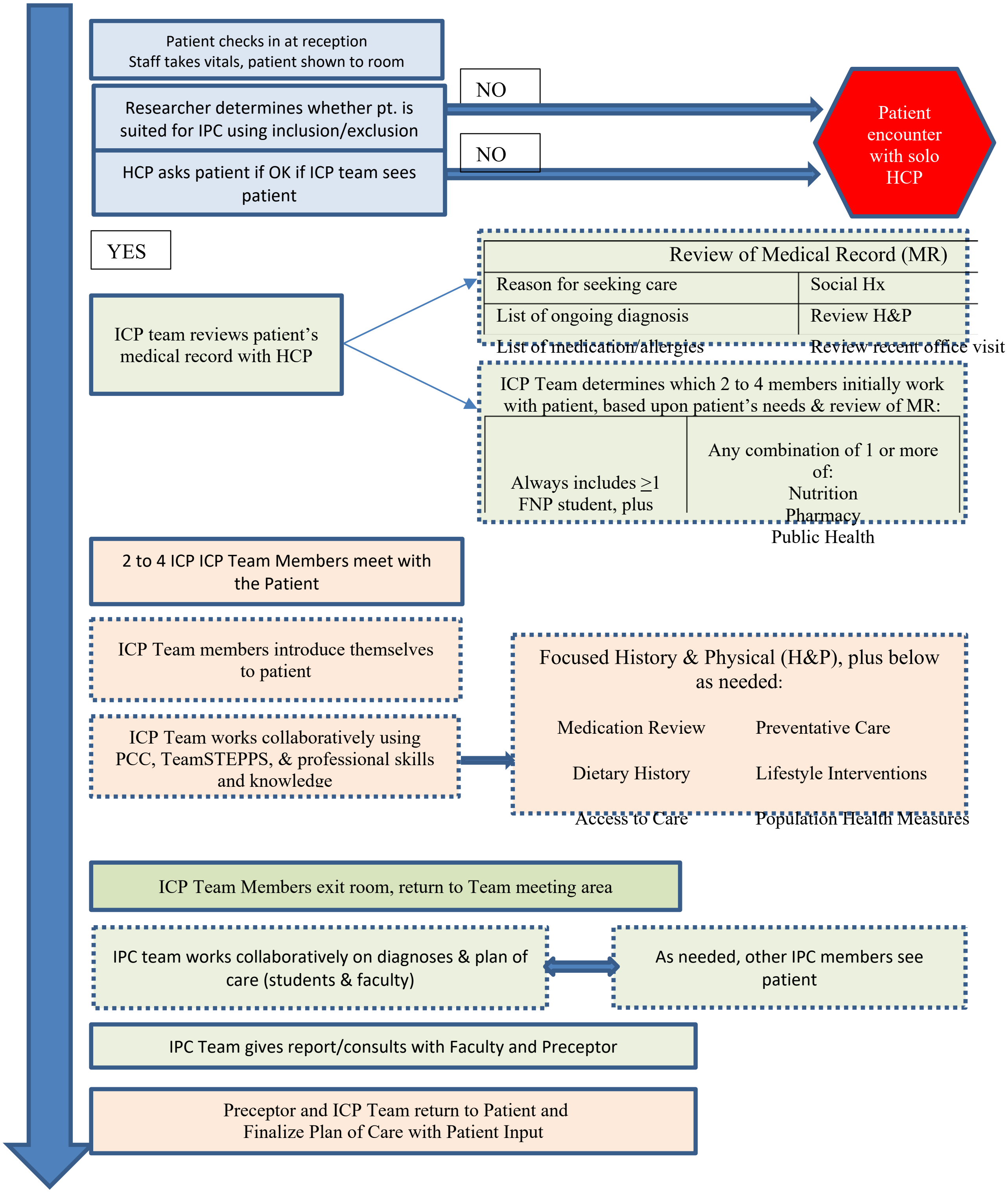


Figure 3.2. *Model of team-based ICP that patients experienced in this study.*

week at the FQHC. The FNP Faculty Liaison was the Preceptor for the ICP Team, with input from faculty accompanying the team. Selection of participants is discussed below in a subsequent section.

The ICP Team worked through a healthcare visit following a routine. Upon arrival at the clinic for a regularly scheduled office visit, the patient's vitals were measured, and they were seen to an examination room by a staff member. The Preceptor invited the patient to take part in an interprofessional team-based visit with a group of learners and faculty from nursing, pharmacy, nutrition, and public health from the University of Tennessee. If the patient consented, then the Preceptor met briefly with the ICP Team and gave an overview of the medical record (MR) and the reason for seeking care on that day. Next, the ICP team reviewed the medical record in detail with faculty, and the team determined which professions the patient would benefit from seeing according to their MR and reason for seeking care.

A minimum of two to three professionals met initially with every patient. Team members were instructed to introduce themselves by name and profession. They each talked with the patient to learn their subjective history, and the FNP student conducted a physical exam. After the PE, team members left the patient's examination room to discuss the case with all four professions and faculty in the team meeting room. The ICP Team identified appropriate assessments and diagnoses, sent in any other team members to collect additional data, then together presented the case to the Preceptor. Team members took turns presenting the case, or portions of the case, to the Preceptor. As directed by the faculty and Preceptor, they next collected any additional subjective or objective data. With final approval from the Preceptor, the team, including the Preceptor, discussed the plan of care with the patient, revised the plan of care as needed with feedback from the patient, and answered any questions from the patient.

After the healthcare encounter was completed, and the patient was ready to leave, the ICP Team notified the researcher, who then knocked and entered the patient's examination room, introduced herself, and asked whether the patient would consider participating in a research study about their experience with an ICP Team. Figure 3.3 depicts the research activities occurring after the ICP healthcare visit. The study was described to the patient, with risks and benefits, and if the patient consented, then they were given a survey and a date was arranged for the interview to take place within three days (72 hours).

Research Questions and Hypotheses

This study explores the lived experience of persons living with chronic conditions who received primary care from team-based ICP in rural Appalachia. The patient populations in this study access healthcare through either FQHC site A or FQHC site B, located in two different counties in medically underserved regions of the Appalachian Mountains in East Tennessee. To explore this phenomenon, two research questions were asked 1) *How do persons living with chronic conditions find value in the care delivered by an ICP team,* and 2) *Would persons receiving care recommend ICP as a model?* Data from a survey and an interview (representing both quantitative and qualitative approaches) were triangulated and integrated to determine how to improve the patient's experience of care. It was hypothesized based upon preliminary collection of surveys, that patients would rate their experiences of team-based ICP behaviors very highly. The statistical null hypothesis was that there is no difference in tendencies on Likert type responses between demographic groups. To answer the research questions, the following methods of analysis were undertaken.

RQ1: (Survey) Medians and modes, ranges for the ordinal data from the Likert-style

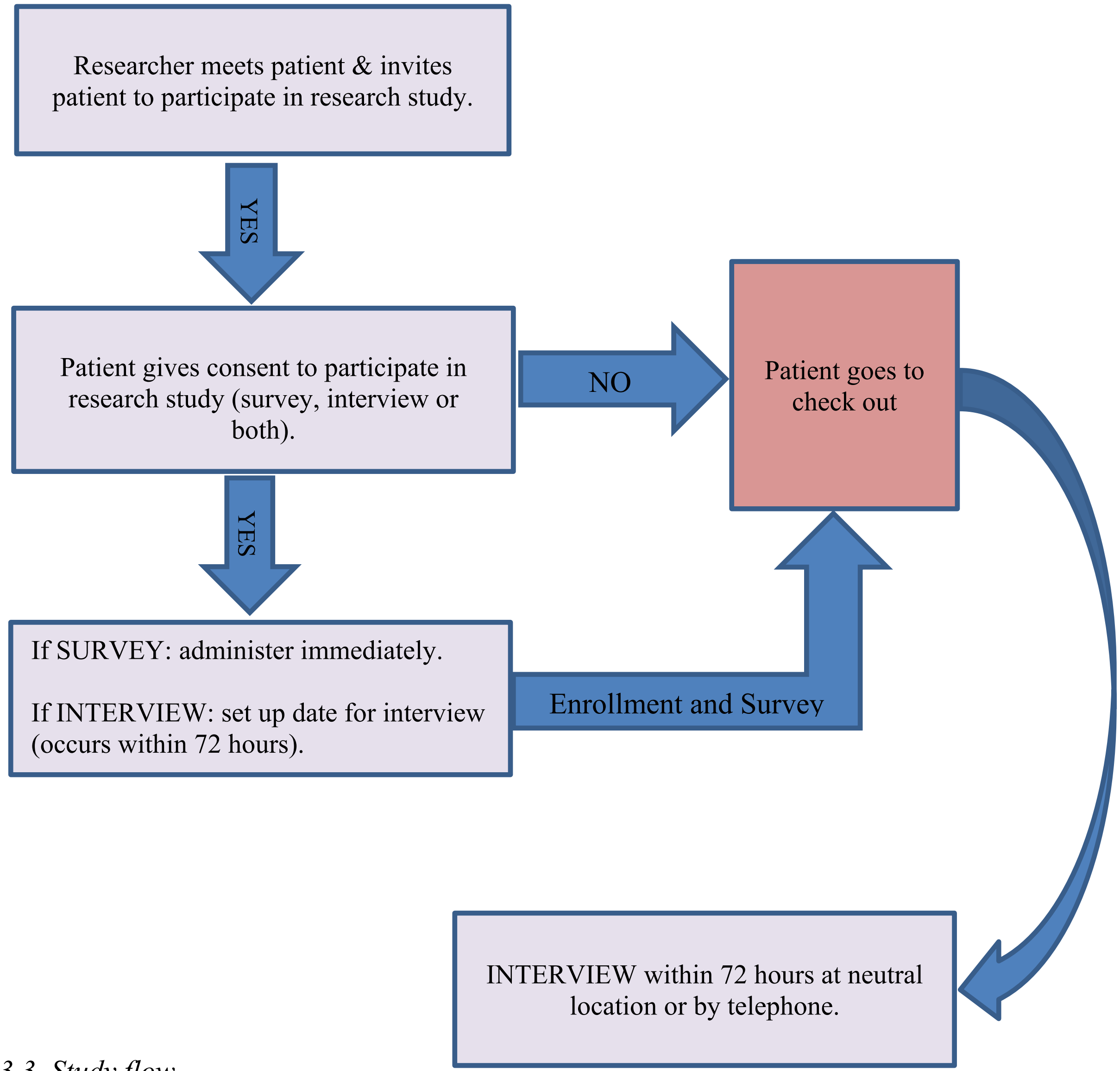


Figure 3.3. Study flow

survey questions; median and mode for the nominal data from the multiple-choice question; frequency counts and percentages for the open-ended short responses. (Semi-structured interview) Semi-structured interviews were conducted, transcribed, and analyzed using thematic opening coding.

RQ2: (Integration of Survey and Interview) Findings from the above data sources were compared and contrasted to make recommendations to improve the patient's experience of care.

Validity and Potential for Bias

Validity has historically been used as a quantitative term. However, qualitative researchers have returned recently to use the term "validity" as it relates to the trustworthiness and quality of a qualitative study (Maxwell, 2013). Maxwell describes *validity* in *Qualitative Research Design* as, "the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account" (2013, p. 122). Validity in qualitative research means that the responses of the participants were accurately represented by the researcher, who adhered to concepts and practices of "truthfulness," "authenticity," and "quality" when reporting descriptions, findings, and conclusions (Maxwell, 2013). A qualitative researcher should identify potential threats to validity by stating alternative explanations and potential biases that may affect a study. To avoid undue bias in this study, qualitative practices included field notes, memos, bracketing of both the researcher and the research assistant (RA), and peer review by the faculty advisor and The University of Tennessee Transdisciplinary Phenomenology Research Group (TPRG). The TPRG has been meeting for over 20 years, welcoming qualitative researchers from across the University, which has recently included education, mathematics, social work, ecology, and nursing, to name a few (S. Thomas, personal communication, Sept. 5, 2017). The TPRG conducts bracketing interviews, reads transcripts from phenomenological and other types of qualitative research interviews, and discusses thematic interpretations and open coding, thereby serving as inter-raters to strengthen the credibility and truthfulness of researchers' interpretations and thematic analyses.

Reactivity Bias.

Reactivity bias occurs when the response of the participant is influenced by the presence of the researcher participating in the activity or phenomenon being studied (Maxwell, 2013, pp. 124-125). A potential threat to validity in the form of reactivity bias was identified in the early IPE surveys, which were administered by students and faculty in the year prior to this study. Upon seeing the highly positive Likert scale responses, it was hypothesized that patients preferred their experiences of ICP to previous experiences of care as usual (defined as care given by solo HCPs). Alternatively, patients may have responded very positively to the survey questions about ICP due to reactivity bias. If the early survey scores were touched by reactivity bias (and therefore did not truly represent a positive patient satisfaction score), then plausible explanations could include either (or both) of the following: 1) patient gratitude for receiving healthcare in an area where it is scarce, or 2) patients' unwillingness to give students a negative score that might affect their grades.

To reduce reactivity bias as a threat to validity, throughout this study surveys were administered by the researcher, rather than the ICP clinicians and students. Participants did not meet the researcher until after ICP concluded. It was explained that the surveys and interviews were part of a research project about patients' experiences, the surveys were not tied to students' grades, and that patients' responses were anonymous and would be used to help researchers and clinicians better understand and improve the patient's experience of ICP.

Researcher Bias.

Researcher bias presents another type of threat to validity, which can occur due to the subjectivity of the researcher (Maxwell, 2013, p. 124). Because the researcher participates in and is in fact a tool of any qualitative inquiry, it therefore becomes important to identify the paradigms or lenses worn by the researcher, through which findings are interpreted (Cresswell, 2013; Moustakas, 1994). The researcher becomes aware of his or her particular perspective by writing or being interviewed about their past experiences related to the proposed research topic for the purpose of "bracketing" (Cresswell & Plano Clark, 2011). Bracketing is the process of becoming more aware of the subjective influences on perspectives and *positionality* (Cohen & Crabtree, 2008).

In this study, a bracketing interview was conducted by an experienced phenomenological researcher to identify the researcher's experiences of and attitudes towards ICP (Appendix M). On a separate occasion, the researcher interviewed the RA for bracketing. The transcript of the researcher's bracketing interview was read aloud by the TPRG to assist in identifying potential attitudinal biases and to provide insight for the researcher prior to meeting, enrolling, and interviewing participants in the study.

Setting and Sample

Setting

Appalachia.

The Appalachian Mountains range from southern New York to northern Mississippi, and the area within this chain of mountains is called Appalachia—home to 25 million people (Appalachian Regional Commission, 2018). The people of Appalachia descend primarily from early mountain settlers from Northern Europe (Russ, 2010). Although numbering less than 10%

of any Appalachian population, the region is home to many ethnic and cultural minorities including Cherokee Indians, African Americans, and many others (Denham, 2016). Because a number of the original settlers came from the British Isles, where battles at their borders were common, families came to rely on kin and neighbors, while developing a stoic skepticism about outsiders who might take advantage of them (Russ, 2010). Employers and owners of businesses located in Appalachia, such as logging and mining, were sometimes exploitive, thus furthering distrust of outsiders. When describing how clinicians should best work with Appalachian clients, Russ advises that it can take time to earn trust, but that once gained, "loyalty and trust … will rarely be broken by the Appalachian client" (2010, p. 5).

The mountains and valleys of the Appalachians can be geographically difficult to traverse, with few roads, and little infrastructure (Appalachian Regional Commission, 2018), and the area has historically been medically underserved. Today many medically underserved populations in Appalachia benefit from Federally Qualified Health Centers (FQHCs), which is a designation funding community based health centers who deliver primary care services and was created and funded under Section 1905(I)(2)(B) of the Social Security Act (Health Resources & Services Administration, 2017).

Counties.

The FQHCs of this study are situated in two different counties in rural Appalachia of East Tennessee where there are few health care providers per person. The health behavior and health outcomes rankings of both counties rank low in the *County Health Rankings* reports (University of Wisconsin Public Health Institute School of Medicine & Public Health, 2017). To protect the identities of those who participated, the counties and FQHCs in which the study took place are referred to as County A and County B, and FQHC A and B, respectively.

County A was founded in the early 1800s. It has a history of farming, lumber, coal and iron ore mining, with many still actively working in the coal mines (Baird & DeVours, 2009; The Appalachian Community Fund, 2017). Manufacturing, retail, education, and healthcare comprise some of the employers in the area (U.S. Census Bureau, 2015). County A ranks in the lowest decile out of 95 counties in Tennessee, with a median household income of $33,100, a quality of life ranking among the bottom 5% of all counties in Tennessee. County A has just under 40,000 inhabitants, with 67% of children eligible for free school lunches (University of Wisconsin Public Health Institute School of Medicine & Public Health, 2017). There is one primary care physician for every 2,000 persons in this county. Racial diversity is low, with Black or African American, American Indian or Alaskan Native, Asian, and Hispanic persons comprising only 2% of the population (U.S. Census Bureau, 2015). Of the patients served by the FQHC in County A, 92.13% are at or below 200% of federal poverty guidelines (HRSA Health Center Program, 2016).

County B is heavily forested land, also having rivers and lakes (Van West, 1998). County B was originally home to the Overland Cherokee, until the Calhoun Treaty of 1817. Logging was the first industry in the area, then aluminum smelting. The Tennessee Valley Authority (TVA) established several small dams along the waterways. Today manufacturing, wholesale trade, and retail comprise the largest employers (U.S. Census Bureau, 2015). County B ranks in the fifth decile of 95 counties in Tennessee for health outcomes, in the 8th decile for health behaviors, yet lies in the top one-third for overall quality of life (University of Wisconsin Public Health Institute School of Medicine & Public Health, 2017). The median household income is $37,900, with 65% of children eligible for free school lunches. There is one primary care physician to every 3,480 persons (U.S. Census Bureau, 2015). There are over 40,000 residents of the county, with low racial diversity of only 2% identifying as Black or African American, American Indian or Alaskan Native, Asian, and Hispanic (U.S. Census Bureau, 2015). Of the patients served by the FQHC in County B, 81.86% are at or below 200% of federal poverty guidelines (HRSA Health Center Program, 2016).

Federally Qualified Health Centers (FQHCs)

In the USA, one out of every six people who live in rural areas are patients of FQHCs (Health Resources & Services Administration, 2017). The mission of an FQHC is to provide primary care to underserved populations, regardless of a person's ability to pay (Health Resources & Services Administration, 2017). Nationwide, the most rapidly growing demographic groups to access care in FQHCs between 2005 and 2014 were minorities of all ages and young people between birth and 19 years old, who are either uninsured or insured by Medicaid (Nath, Costigan, & Hsia, 2016). People accessing healthcare through FQHCs typically have complex, chronic medical needs (National Association of Community Health Centers, 2016). To meet their needs, clinicians such as nurse practitioners (NPs), physicians assistants (PAs), and certified nurse midwives are hired at nearly twice the rate of physicians (National Association of Community Health Centers, 2016). Because of the high demand placed on HCPs in FQHCs, clinicians describe fatigue related to their work, and many leave (National Association of Community Health Centers, 2016). Vacancies in family physician and psychiatric positions are the most difficult to recruit to and fill. Some two million more patients could be served nationwide, if all current vacancies in FQHCs were filled by clinicians (National Association of Community Health Centers, 2016).

Use of government funded health centers such as FQHCs increased by 151% between 2001 and 2016 (Health Resources & Services Administration, 2017). FQHCs (or similar health centers) serve Americans who are uninsured, underinsured, or living in communities where healthcare providers (HCPs) are scarce, often do not have the same number of HCPs, availability of appointments, or diversity of types of care providers that a patient in a more affluent, urban or suburban, or well-insured population would enjoy. Those without insurance usually do not have means to pay for expensive consultations with experts or specialists and rely upon the FQHC. There, a general practice physician (GP), an advanced practice registered nurse (APRN), also called a "family nurse practitioner" (FNP), or a physician's assistant (PA) will address their healthcare needs, unless a rare or threatening condition arises necessitating specialty treatments (e.g., cancer, stroke, neurologic conditions, or surgery). When referral becomes necessary, the primary care provider sometimes resorts to variety of tactics to try to find resources for the patient, including referring patients with insurance to the specialist so that an uninsured patient would be treated from time to time or seeking hospitalization (Werner & Corbett, 2015).

FQHC A and B.

The two FQHCs in this study have been operating for several decades, and both have built new buildings in the past five years, which are modern, clean, and spacious. Both FQHC A and B run primary care clinics and offer urgent or "walk-in" care to their patients, as well as a host of diagnostic services such as x-rays, bone densitometry, and in-house laboratory testing of the most commonly ordered tests. Most of the primary care providers in the two FQHCs are trained advanced practice registered nurses (APRNs) who are board certified as Family Nurse Practitioners (FNPs). In addition, one FQHC has two PAs and a physician board certified in Pediatrics, and the other clinic has two physicians in general practice (GP). Both agencies offer some additional services or specialty care such as endocrinology, pulmonology for coal miners, behavior health, psychiatry, social work, and diabetic education.

The State of Tennessee did not opt to expand Medicaid benefits under the Affordable Care Act, so many of the patients seen at these two FQHCs do not have any other affordable access to healthcare services including some screening diagnostics that are readily available in well-insured populations (J. Stanley, Personal Communication, April 4, 2018; H. Bolinger, Personal Communication, April 4, 2018).

FQHC A serves approximately 5,430 patients (J. Stanley, personal communication, April 4, 2018), and FQHC B provides care to 10,340 patients (H. Bolinger, personal communication, April 4, 2018). Most of the people living in these regions do not have health insurance or have very limited coverage; additionally, they may not have reliable transportation to travel to an urban area, or the means to follow the plans and regimens developed by a HCP unacquainted with underserved communities.

Patient-Centered Medical Homes.

Both FQHCs operate as Patient Centered Medical Homes (PCMHs), with electronic medical records systems and patient portal access available but infrequently used. PCMHs conform to five basic tenets:

1. Care that is comprehensive, including teams of clinicians or care providers to address diverse needs,
2. Care that is patient centered,
3. Care that is coordinated across systems and providers,
4. Care that is accessible without long waits, and
5. Care with an emphasis on improving quality and safety through evidence-based practice, review of performance and processes, and improvement (Agency for Healthcare Research and Quality, 2013).

Academic-Community Health Partnerships.

Both FQHCs A and B have active academic-community health partnerships with The University of Tennessee College of Nursing. In 2015, a HRSA Advanced Practice Nursing Education grant provided FNP Faculty Liaisons to both organizations. The FNP Faculty Liaisons worked both at the University and at the FQHCs to integrate into the clinical staff where they saw patients two days per week as primary care providers (PCPs). The FNP Faculty Liaisons also helped facilitate the IPE/ICP teams who saw the patients of both FQHCs. The partnerships and FNP Liaisons have built trust with both FQHCs, and access to their patient populations was facilitated by those relationships. In the present study, the researcher was well known to the academic-community partner leadership and clinicians.

These two separate FQHCs are located approximately 93 miles apart. Both practice "meaningful use," which is defined as using electronic data to improve multiple dimensions of care and decrease healthcare disparities (The Office of the National Coordinator for Health Information Technology (ONC), 2015). Both A and B are approximately one hour from a major medical center. Neither FQHC practices team-based ICP (as defined previously in chapters one and two); however, both practice parallel care of patients by different types of HCPs. For example, one of the sites has an endocrinologist on staff and holds micro-clinics to address some of the identified needs of the community. However, the primary care providers (PCPs) and the micro-clinics do not practice structured collaboration or team-based care and do not hold team meetings to discuss care of patients across disciplines. Rather, theirs is an integration of proximity. Therefore, the ICP teams in this study constituted a new model of care. Additionally, professionals from the disciplines of nutrition, pharmacy, and public health are not represented on the staff of either FQHC.

Population

The sample from this study was drawn from patients who had been seen as part of an IPE/ICP activity. Below, recruitment to the IPE/ICP healthcare visit is described, followed by a description of how participants were recruited to the study. In this discussion, the terms *office visit*, *appointment*, and *encounter* are used interchangeably.

Recruitment to IPE/ICP Healthcare Visit.

Patient recruitment to the IPE/ICP team-based healthcare office visit occurred on the day of a regularly scheduled appointment, when the patient was scheduled to be seen by their HCP, who was either an FNP or a PA. Patients had no foreknowledge that they would be offered an ICP team-based encounter. Prospective participants (patients who were scheduled to be seen on the day the ICP team was present) were reviewed by the University of Tennessee FNP Faculty Liaisons (FNPs who facilitate teams and provide primary care for patients weekly at the community partner sites) using similar inclusion and exclusion criteria to those used in this study; however, some additional patients were seen by the team who could not be included in the study based on inclusion or exclusion criteria (e.g., persons under 18 years of age). Even so, the FNP Liaisons ensured that all the patients seen by the team had one or more chronic conditions (A. Bryant, personal communication, May 22, 2018; B. King, personal communication, May 24, 2018). Once patients were triaged by a medical or nursing assistant, they were shown to a private examination room, then approached by their regular HCP and given the choice of seeing either of the following: 1). the ICP team in communication and consultation with their HCP (as described above, see also Figure 3.2), or 2) their HCP (representing care as usual). All the above activities were part of the routine clinical educational activities of the University IPE/IPC teams at both sites A and B as described above and depicted in Figure 3.2.

Recruitment to the Study.

The population from which this sample was drawn included all patients who voluntarily participated in the IPE/ICP healthcare visit. After the researcher applied the inclusion and exclusion criteria, all of the eligible participants who were seen by the IPE/ICP team were invited by the researcher to participate in the study. Patients were recruited to the study after the patient encounter was completed by the ICP team. The researcher followed a script for fidelity in recruiting patients to the study. The script was designed to avoid bias in the way patients are recruited and to protect patients from any perception of coercion. At the end of the healthcare visit, the researcher met the patient for the first time and asked the patient to participate in a study about their experiences. Patients could participate in the survey, the interview, or both. The survey occurred immediately, whereas the interview could occur within the following 72 hours. Interviews took place in a neutral environment, such as the Subway Café within the local Wal-Mart, or by telephone, at the patient's choice. Previous work has demonstrated that patients prefer some aspects of telephone interviews, and telephone interviews can limit some biases, such as acquiescence bias (Ward, Gott, & Hoare, 2015). Consent for the interview was obtained prior to the survey, and it was obtained again verbally at the time of the interview as well as consent to record the interviews. Participants were reimbursed for their time with a twenty-dollar ($20) Wal-Mart gift card in person after the interview or via U.S. Mail if the interview took place by telephone.

Sampling in Mixed Methods.

As Palinkas et al. (2015) point out, in a mixed methods study the sampling strategy must address the needs of both the quantitative and the qualitative approaches. In this study, the goal for the quantitative approach was to recruit enough respondents to the patient survey for it to have sufficient statistical power to detect potential differences in quantitative responses to ICP according to demographic groups, such as age, and education. To this end, permission was obtained from the University of Tennessee Institutional Review Board (IRB) to include the evaluation survey data gathered from 2016-October 2017, as part of a separate, ongoing educational evaluation. The survey instrument was retained in its original form for use in the current study, unchanged for continuity. It was recognized that three of the questions (numbers 6-8 on the Likert scale) were poorly constructed and would likely yield little useful information, while also introducing potential bias. The survey has not been tested for validity or reliability, which is beyond the scope of this study. As such, the survey results can be analyzed descriptively, and only as a signal worth investigating, which when combined with the thick descriptions of the interviews, provides a preliminary investigation of the patient's experience. During the research study, from November 2017-April 2018, patients who consented to participate in the study were invited to participate in a survey, a semi-structured interview, or both.

Sample size for a narrative study can vary from five to 25 interviews, or until saturation is reached (Cresswell, 2013). The concept of *saturation* is important, which is to reach redundancy in the responses of the participants until little or nothing is to be gained by continuing to recruit subjects. Up to 25 interviews were planned for this study to capture the patient's experience of ICP.

The strategy employed is consistent with a purposeful (also called purposive) sampling, because patients with experience of the phenomenon were invited to participate in the study, subject to inclusion and exclusion criteria. Since all the respondents had consented prior to the study to be treated by an IPE/ICP team, the generalizability of the findings to the patient population in the two FQHCs was confined to those who agreed to experience ICP (Kelly, 2010). Every effort was made to capture divergent experiences, perspectives, and attitudes by recruiting every IPE/ICP patient to the study. This study used narrative interviewing, which is rooted in phenomenology (Kelly, 2010).

Inclusion Criteria, Informed Consent, and Protection.

To be included, patients must have voluntarily agreed to the study and have one or more chronic conditions, have had a previous encounter with a solo HCP, and, be 18 years of age or older. If a participant required assistance to answer questions, then an additional criterion was to have a caregiver/family member during the office visit and for the interview. All semi-structured interviews were conducted within three days (72 hours) of their encounter with the ICP team.

Exclusion criteria were patients new to the clinic, having a first visit for a mental health issue, an annual screening examination, someone suffering from dementia or delusional episodes, and patients who needed assistance yet came to the interview unattended. Patients with severe or end-stages of chronic illnesses, such as end-stage renal disease, or stage four cancer were also excluded. The project was approved in advance by The University of Tennessee IRB and by the FQHCs. Both FQHCs submitted a Letter of Support of the study. The researcher underwent the Collaborative Institutional Training Initiative (CITI) for Human Subjects Research. The RA, who was active during the first two months of data collection only, also underwent CITI training, readings, and bracketing (as described in the Validity section) before observing patient interviews and taking field notes.

For the semi-structured interviews, participants were asked to sign an informed consent form, which advised them that they could stop the interview at any time, they could refuse to answer any questions without penalty, and that their participation and answers would not influence their ability to receive healthcare services at the clinic. In addition, they were asked to give permission for the interview to be audio-recorded. When interviewing by telephone, the description and consent were read aloud to the respondent with opportunity for questions and answers, followed by verbal consent.

Surveys, interviews, and field notes were kept confidential, without any traceable identifiers, and each was uniquely numbered to link surveys, transcripts, observations, and field notes to facilitate data interpretation and triangulation of results. Only the researcher had access to the numeric identifiers. Participants were asked to give permission to be audiotaped during their interviews for transcription later. Interview transcripts did not include any identifying information such as proper names, references to names, or names of specific HCPs or FQHCs (these details were omitted at the time of transcription of narratives). Surveys, audiotapes, and transcripts were kept locked in a file cabinet in the researcher's office. Electronic records were stored online in the University-provided Microsoft OneDrive for Mac client, a service that is compliant with The Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA), and Personally Identifiable Information (PII) security requirements.

Data Collection

The data collected consisted of quantitative surveys, qualitative interviews, and field notes or memos of the researcher and RA taken following meeting the patient to administer the survey or after the interview. Immediately after being treated by the ICP team, patients were invited to participate in a study and to take a one-page survey, followed within three days (72 hours) of their office visit by an interview, also described as a "chance to talk some more," about their experience as a patient with an IPC team. The purpose of the study was described as an opportunity “to learn from patients about how they experienced this new form of healthcare.” The purpose of the semi-structured interview was to learn about the patient’s story or lived experience (the narrative) of being seen by the IPC team (the phenomenon) in the words of the patient. Questions were asked in the open-ended style of a phenomenological interview (Appendix F – Semi-Structured Patient Interview Guide).

Quantitative Patient Surveys

The Patient Survey, developed in 2015 for patients receiving care during IPE/ICP to evaluate team-based care, included eight Likert item questions that could be responded to with a score of 1 (strongly disagree) to seven (strongly agree). The instrument was not altered for this study. The survey also included the opportunity for open-ended responses, and demographic data (Appendix E).

The survey tests constructs centering on communication and respect as foundational to patient centered care. Four of the Likert scale reflect similar PCC constructs to those in the validated survey, Clinicians and Groups-Consumer Assessment of Healthcare Providers (CG-CAHPS) Version 2.0 “Visit Survey” (Agency for Healthcare Research and Quality, 2015; Centers for Medicare & Medicaid Services, 2017), which is also cross-sectional. The survey measures patient experiences rather than patient satisfaction, because experiences have a stronger effect upon clinical outcomes (Dyer, Sorra, Smith, Cleary, & Hays, 2012).

In addition to the questions adapted from CG-CAHPS, three original questions specific to team-based care were included such as, “I would recommend a healthcare team over seeing separate providers to my family and friends.” Three open-ended qualitative questions are also included in the patient survey. These short answers offered additional corroboration and enrichment of coding and thematic interpretation across data sets. Frequency counts and an inductive content analysis were completed on the open-ended data.

Qualitative Approach

A thorough approach to the collection and interpretation of qualitative data was taken to ensure trustworthiness. Morse (2015) describes four qualities that give rise to trustworthiness (or “rigor”): 1) credibility (the researcher’s interpretations are true to respondents’ views obtained through prolonged engagement, triangulated with observations, and affirmed through inter-rater review and member checking), 2) transferability (where thick and rich descriptions permit another to apply findings or generalize to another setting), 3) Dependability or reliability (the research is documented, traceable, can be audited and triangulated through other methods), and 4) confirmability (the researcher demonstrates how conclusions were drawn through triangulation and the audit trail) (Denzin, 1994; Glesne, 2016; Lincoln & Guba, 1985; Morse, 2015; Nowell, Norris, White, & Moules, 2017). Strategies taken in this study to strengthen trustworthiness are shown in Table 3.2.

Prolonged engagement with study participants is the gold standard for obtaining enough detail in data sets, particularly in interviewing. Because of its cross-sectional design, more than two meetings with study participants were not possible in the present study. However, the researcher had intermittent engagement with study sites A and B over the course of 11 years while observing preceptor, student, and patient interactions, and more intensively during the two years of the study while observing approximately 145 to 150 patients engage with IPE/ICP teams. During the study, the researcher met with each participant twice (once at the FQHC to administer the survey and again for the interview in person, or by telephone). Some researchers consider the definition of prolonged engagement to include obtaining interviews and qualitative

Table 3.2. Qualitative Approaches Taken to Increase Trustworthiness

Strategy	Description
Prolonged engagement	Extended time and/or multiple methods of observation, interviews, & other interactions
Triangulation	Using multiple sources, researchers, perspectives, & data collection methods
Thick description	Writing descriptively from interview and observation records & presenting context
Negative case analysis	Seeking and including negative or oppositional cases in data collection & interpretation
Bracketing (researcher reflexivity)	Self-inquiry to reflexively consider the researcher's subjectivity and how it is used to guide data gathering and interpretations
Peer reviewing and debriefing	Use of inter-raters, collegial feedback, and critique of data collection, coding, interpretation, and reporting.
Audit trail	Maintaining records related to research (e.g., memos, field notes, coding book with schemes, transcripts)

data from multiple study participants (it was the goal of this study to obtain 25 interviews). Morse (2015) more precisely describes engagement with multiple respondents as "persistent observation" which is necessary to obtain "thick, rich description" (p. 1214). Thick, rich descriptions are obtained by interviewing sufficient numbers of participants to reach saturation in the data set (Morse, 2015); therefore the goal was to reach saturation.

Negative or discrepant cases were sought and described to provide contrast to most of the shared perspectives. Formal member checking was not conducted; however, during the interview the researcher sought to confirm patients' perspectives and experiences through mirroring and reflective language, paraphrasing back, and asking clarifying.

Before beginning data collection or analysis, both the researcher and the RA participated in bracketing interviews, which were discussed and debriefed during meetings of the TPRG.

Throughout data collection and analysis, the researcher continued to self-reflect to assess and understand subjectivity.

The researcher wrote observations and field notes after meeting each participant for the first time at FQHC A or B (during study enrollment and survey administration) and again immediately after the interview. The RA also took notes during observation of the first eight interviews and assisted to record them. These records were used as additional sources of data for triangulation. Later, at the level of integration of quantitative and qualitative data, triangulation occurred across all data sets.

Peer review was given during various aspects of the project by several different people. The faculty advisor read transcripts, attended TPRG, and critiqued thematic analysis. A simulated patient piloted the semi-structured interview and provided feedback on understandability of language use and questions. The RA observed interviews and field notes and provided feedback on cultural competency (as an Appalachian herself with years of experience as a registered nurse in Appalachia) regarding interviewing strategies and language. Finally, the TPRG read whole transcripts aloud during group meetings, identified and discussed themes and discrepant cases, and later reviewed coding strategies and thematic findings to assess their credibility. An audit trail was also maintained including transcripts, a coding book, memos, an NVivo database (with early coding of transcripts, auto coding of themes, and word count), field notes and observations by the researcher and RA, consent forms, interview guides with handwritten notes, original survey responses, and various other records.

In summary, the above-described qualitative approaches to increase trustworthiness (rigor) as practiced in this study are summarized in Table 3.2. As previously described, prolonged engagement with study participants was limited by the cross-sectional design of the study and participants having only one experience of TBICP. Member checking following thematic analysis was not conducted. This decision was related to the limited duration of a cross-sectional study, the probability of reaching saturation via the number of anticipated interviews, the abundance of corresponding survey data for triangulation of findings, and primarily, the desire to practice cultural sensitivity by protecting the privacy of participants from further intrusion.

Semi-structured Interview.

The questions developed for the semi-structured interview, related to this study, were designed to elicit what patients experienced during IPC (what happened, how they experienced it, and what they felt); any contextual or contributing factors that might have influenced the respondent's experience of the phenomenon (e.g., illness or pain, or unrelated activities, events, or conditions in the respondent's life at that time); and the extent to which a participant would recommend, or choose themselves to participate in a TBICP healthcare visit again.

See Appendix F for the interview guide and Appendix G for the elicitation protocol with rationale. The interview questions were piloted with a standardized patient, who had three years of experience providing feedback to clinicians in simulation settings. The first eight patient interviews were also observed by the RA who reviewed and critiqued the researcher's cultural sensitivity, technique, and accessibility (understandability) of the language spoken during interviews. As a native of Appalachia, the RA was viewed as a cultural insider, who had worked in a mental health hospital as a registered nurse for several years and was at the time of the study completing training as a mental health psychiatric nurse practitioner. Based upon the combined feedback of the standardized patient and RA, the researcher sought to use a simpler level of language, more reflective listening, and minimal reliance on the interview guide to enhance rapport and trust with each participant. At the conclusion of the interview, the researcher asked permission to contact the patient once more in the future, if the need arose for clarification or to ask an additional question. The patient was thanked for their time and given a twenty-dollar Wal-Mart card for participating. When interviewed by telephone, participants received a handwritten note of thanks along with a Wal-Mart card.

Data Analysis

Statistical Analysis of Surveys

Data collected by the survey were analyzed descriptively and represented in bar charts. Eight survey questions were given as statements with respondents scoring their response on a Likert-type scale, as previously noted. These were presented with a dashed line to show a continuum from 1 to 7. These Likert responses were dependent variables, whose nature can be considered either ordinal, or even interval data, since the possible responses were presented on a continuum (Sullivan & Artino, 2013). This study treats the Likert outcomes as ordinal data and therefore reports range, median (Mdn), and mode (Mo). Responses to the sole multiple-choice question (with possible answers of yes, not sure, or no) were treated as nominative data. Open questions generating short responses were recorded, coded, counted, and assessed.

Each Likert styled question was analyzed to determine whether demographic groups demonstrated significant scoring tendencies varying by age range, educational level, ethnicity, and gender, where the demographic is the nominative independent variable, and the response to Likert statements is the dependent variable. Statistical null hypotheses for any differences among demographic groups were stated as follows: H_0: There is no difference between [independent variable levels, e.g., age ranges] and outcome of each Likert-type question (e.g., the team gave me information about my health in a way that I could understand).

Power and Sample Size.

Where there were multiple independent variables (ex., ≥ 3 nominal categories), the Kruskal-Wallis test for nonparametric distributions was used. A power analysis is not usually calculated for nonparametric tests of central distribution, but when so desired, a power analysis based upon the comparable parametric test may be used (Prajapati, Dunne, & Armstrong, 2016). To determine the number-needed for sufficient statistical power, it was necessary to compute a power analysis for the one-way ANOVA. The independent variable having the greatest number of categories was education, with six different nominal categories. A power calculation found that 98 survey respondents were needed to detect differences between six categories (alpha=0.05, Power=0.8, effects size of 0.15).

Narrative Analysis of Interviews

Each interview was audio-recorded then transcribed by a professional transcriptionist, who signed a confidentiality contract. Each interview was transcribed without any identifying names of places or persons and was assigned a pseudonym and a number linked to the participant's corresponding survey. Narratives were analyzed both by 1) machine coding, and 2) open coding by the researcher and inter-raters. Machine coding identified *autocoded themes* and word counts (word frequencies) using NVivo Pro software, Version 12 (QSR International Pty Ltd., 2017). The algorithm used by QSR International for machine coding is proprietary and nonpublished.

Narratives were analyzed thematically using open coding, following an inductive process as follows. Transcripts were read multiple times. The unit of analysis was determined to be themes rather than individual words. A codebook of themes and subthemes was kept, with excerpts from every transcript recorded by theme, following practices described by Saldana (2009).

The narrative texts were read and reread over several months as codes, categories, and themes emerged. A zigzag process was used to approach coding the transcripts, by coding a few transcripts initially, before returning to interview additional participants. The first eight transcripts were uploaded to NVivo and hand-coded using open, thematic coding of phrases. As the coding scheme evolved and changed, it became more efficient to organize the data in an Excel spreadsheet. A data matrix was constructed in Excel for each respondent (rows) giving responses to each semi-structured interview question in columns. Themes and categories emerged inductively from the raw data, which were present across respondents and questions. The first eight transcripts were read again using the method of constant comparisons between the raw data and the codes (Cresswell, 2015), taking notes in the margins, then entire sections were transferred to the spreadsheet. The subsequently collected transcripts were uploaded to NVivo, primarily for an audit trail and machine coding. As described above, these newer transcripts were read several times, notes written in the margins, and then responses to each survey question were added to the Excel matrix. Finally, within all rows and columns, emerging codes and corresponding themes and categories were placed in bold font. The researcher wrote a summary statement of selected excerpts at the end of each row from the full narrative of each respondent. Important memos and field notes and observations were added to each row as well. Working within each column and across rows, themes emerged, comparisons were made, and points of commonality or dissention were readily identifiable. Once the theme and subthemes were identified, they were once more manually open coded to reassure the researcher of fidelity to the intended meaning and context of the experience described by each participant. Although the study did not follow every tenet of a grounded theory approach, most notably engagement with each participant was limited two interactions and a single experience of the phenomenon, the thematic and categorical analysis most closely adhered to grounded theory, with interviewing methods drawing consciously upon the philosophy of phenomenology.

Peer Review or Inter-rater Coding.

Peer review by the faculty advisor assisted to ensure trustworthiness of coding and thematic analysis. Three transcripts were read aloud in their entirety by the TPRG, who served as another source of peer review to increase trustworthiness of thematic analysis: the TPRG read the transcripts, and identified and discussed possible themes, without knowledge of the researcher's analysis. After analyzing all the transcripts, the researcher twice presented the themes and subthemes, alongside supporting excerpts, to the TPRG for inter-rater reliability (critical assessment) of the accuracy and interpretation of themes and subthemes relative to the respondents' narratives. Finally, machine and manually coded themes were compared to serve as an additional source of triangulation. Outliers, also referred to as discrepant cases, were included, and viewed as important to represent alongside convergent themes, even when voiced by one or very few respondents.

Field Notes and Observations.

The researcher wrote field notes and observations immediately after meeting with each participant to enroll them in the study and following each interview (usually within 30 minutes). An RA observed the first eight interviews and took field notes. The researcher took notes during the remaining 13 interviews. Field notes and observations were used to triangulate the survey and narrative data. Demographics were collected on paper at the end of each interview and used to provide more detail about each person interviewed.

Integration

The quantitative data (Likert scale responses and short answers) were triangulated and integrated with comparable constructs from the narrative findings and themes. Where some survey questions inventoried PCC constructs, those were integrated with similar constructs named in the transcripts. The open-ended questions on the survey were categorized and counted, then compared to the predominant themes of the qualitative analysis. Categories that emerged from narrative transcripts and coding were triangulated with the quantitative short answer categorical data then integrated. Both the quantitative and qualitative approaches requested information from respondents about future uses of TBICP, and these responses were also integrated to answer research question two (RQ2) regarding whether patients would recommend TBICP. The results from the mixed methods approaches and integration of findings are discussed, with recommendations, in Chapter Five.

Grounded Theory

The approaches described in the collection and analysis of qualitative research support the preliminary construction of a grounded theory as described in Cresswell (2015) and Bryant and Charmaz (2011). Data were collected and analyzed inductively, using a zigzag process. Data (transcripts) were constantly compared to early coding schemes, supporting the identification of an emerging scheme, from specific details to broader, interrelated themes (an inductive analysis). Within the themes, a core category, or overarching theme, became very apparent. The core category was supported by additional themes, all of which were interwoven and supported by interrelated constructs. Themes were abstracted into categories. The categories represent interrelated processes, actions, constructs, and relationships, which were described, diagrammed, and illustrated in a grounded theory of TBICP.

Conclusion

In conclusion, the mixed methods approach taken in this study represents a rigorous exploration to capture the patient’s experience of ICP in a primary care setting. Quantitative data were analyzed using descriptive and inferential statistics. Qualitative data from the narrative interviews were analyzed following robust, qualitative techniques rooted in grounded theory and phenomenology. The mixed method combination of approaches provided multiple sources for the triangulation and integration of numeric data explained more fully by context, definitions, and descriptions from the lived experiences of persons experiencing TBICP for the first time. Every effort was made to remain true to the meaning, intent, and context of the respondents, without the researcher inserting subjectivity. Field notes and observations offered additional insights, opportunities for researcher reflexivity, and triangulation.

Chapter Four: Results and Findings

Introduction and Organization of the Chapter

The purpose of this research study was to explore the lived experiences of persons living with chronic conditions who received care from a primary care team. Participants experienced ICP during a primary care visit at one of two FQHCs in rural, underserved areas of Appalachia in East Tennessee. The study was guided by the following research questions:

1. How do persons living with chronic conditions find value in the care delivered by an ICP team?
2. Would persons receiving care recommend ICP as a model?

The specific aims of this study were as follows:

- To measure and describe patient satisfaction with team-based ICP through surveys, and to further explore the patient's lived experience of the phenomenon through semi-structured interviews.
- To integrate data from the mixed methods in order to make recommendations to improve TBICP as a new model of care.

To answer these research questions, it was necessary to take a mixed methods approach involving the use of two sources of data:

- Surveys of adult patients receiving ICP immediately following their experience of the phenomenon (n=133), and
- Interviews with a subset of the above group within 72 hours of their experience of the phenomenon of team-based ICP (n=21).

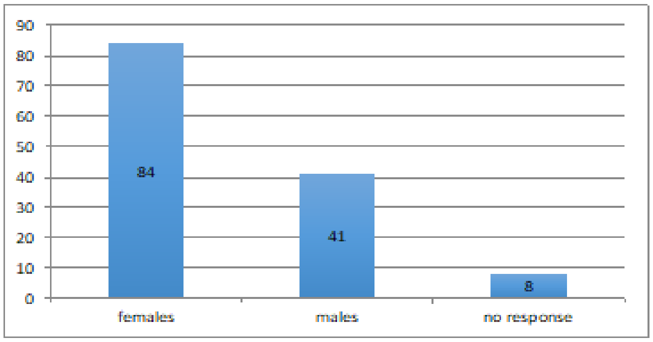
Survey findings are reported first, including quantitative data, descriptive statistics, and short answers. Interview findings are presented secondly, including thematic analysis of patient narratives. Lastly, data from surveys and interviews are integrated. This chapter describes quantitative and qualitative findings regarding patient satisfaction and experience of TBICP.

Participants

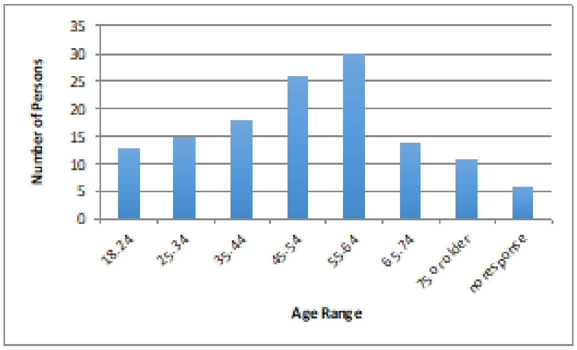
As results are described, references to “patients,” as “participants,” or “persons” will be made where possible to promote more person-centered language. The flow chart in Figure 3.1 provides an overview of the number of patients who responded to the survey (n=133) and the interview (n=21). From February 2016 to October 2017, 110 patients responded to the survey, which was administered at that time for the purpose of educational assessment related to IPE activities (the same IPE/ICP activities as patients experienced in this study). To these 110 survey responses were added another twenty-three (23), which were completed by participants in the study between November 2017 and April 2018, for a total of 133 surveys. Of the 23 persons enrolled in the study, all 23 completed the survey and 21 (91%) also completed an interview. Very few TBICP patients who were eligible for the study declined to participate. Of these, one gave fatigue as the primary reason, due to milking cows early that morning and needing to return to work. Those who responded to the survey yet declined the interview cited reasons such as feeling too ill or feeling too overwhelmed by a family member’s illness to participate in an interview during the following 72 hours.

Demographics

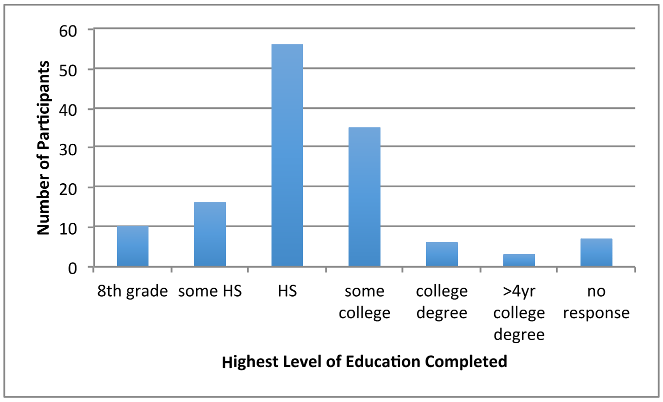
Demographic characteristics of all respondents to the survey are illustrated in Figure 4.1 (interviewees are also included in these numbers). Participation by gender included 63.1% females, 30.8% males, and 6.0% did not respond. Ages ranged from 18 to >74 years of age, and age groups were normally distributed as determined by the Shapiro-Wilk (*W)* test of normality (n=127, W=.941, p<.001). The mode was 55 to 64 years of age, representing 22.6% of the



4.1.a. Gender



4.1.b. Age range



4.1.c. Education completed

Figure 4.1. Survey participant demographics by a) gender, b) age range, and c) education.

participants, with the group, 45 to 54 year-olds, having the next highest representation, 19.5%. A few participants did not indicate an age range (4.5%). Education level was normally distributed and ranged from "less than or equal to eighth grade" to "more than four years of college." High school graduates were the most numerous with 42.1%, followed by those with some college 26.3%, some high school 12.0%, and eighth grade or less 7.5%.

Survey Results and Findings

Likert-Scale Results

Responses to the Likert-styled survey questions, comprising the first eight question of the survey, are shown in Table 4.1. Questions 1-4 are related to team behaviors and patient centered care. The mode for all four questions was a 7 (where 1 is "strongly disagree" and 7 is "strongly agree"), indicating that patient satisfaction was very high regarding attributes related to PCC. A Kolmogorov-Smirnov (KS) test (IBM SPSS, 2018), finds that patient response scores to questions related to PCC deviated significantly from a normal distribution, each having a mode of seven; therefore, the null hypothesis is rejected as follows: *understood my situation* [D(133)=.455, p=.001], *listened carefully to me,* [D(133)= .497, p=.001], *gave me information about my health in a way that I could understand,* [D(133)= .487, p=.001], and *respected my ideas for my plan of care* [D(111)= .455, p<.001]. The data for all four constructs skew to the left, as is demonstrated by histograms in Figures 4.2–4.5. This indicates strong agreement with the above statements, which can be interpreted as strong satisfaction with experiences in these domains. Patients were asked whether they felt overwhelmed by seeing multiple team members at once, and this elicited responses across the full range, from 1 to 7. However, the majority strongly disagreed with feeling overwhelmed, with a mode of "strongly disagree" (Mo=1) and the null hypothesis was rejected [D(132)= .250, p< .001). Responses to the feeling of being

Table 4.1. Survey Participants' Responses to Likert-styled Questions

Likert Items (1=strongly disagree and 7=strongly agree)	**Mo**	**Mdn**
1. The team seemed to understand my situation. (n=133)	7	7
2. The team listened carefully to me. (n=133)	7	7
3. The team gave me information about my health in a way that I could understand. (n=133)	7	7
4. The team respected my ideas for my plan of care. (Leave blank if not applicable) (n=111)	7	7
5. The team seemed to work well together. (n=132)	7	7
6. It was somewhat overwhelming seeing multiple team members at once. (n=132)	1	2
7. I would rather see a healthcare team than see one physician or one nurse practitioner. (n=131)	4	4
8. I would recommend a healthcare team over seeing separate providers to my family and friends. (n=131)	4	5

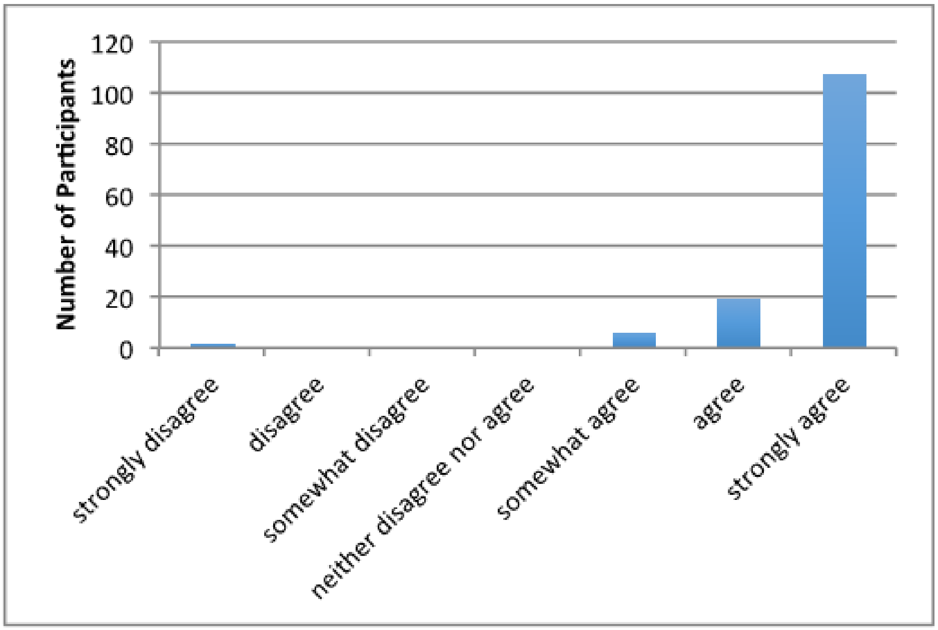


Figure 4.2. The team seemed to understand my situation.

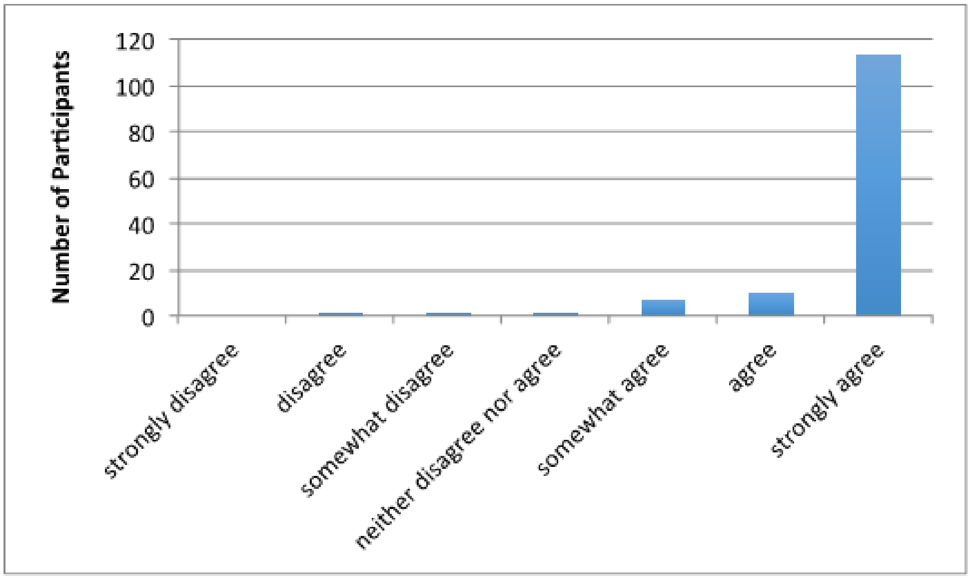


Figure 4.3. *The team listened carefully to me.*

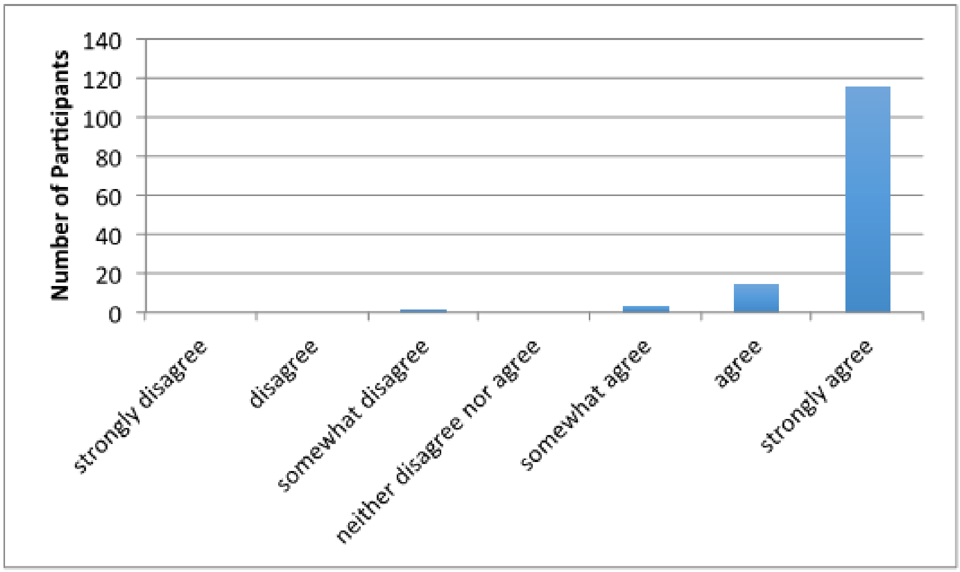


Figure 4.4. *The team gave me information about my health in a way that I could understand.*

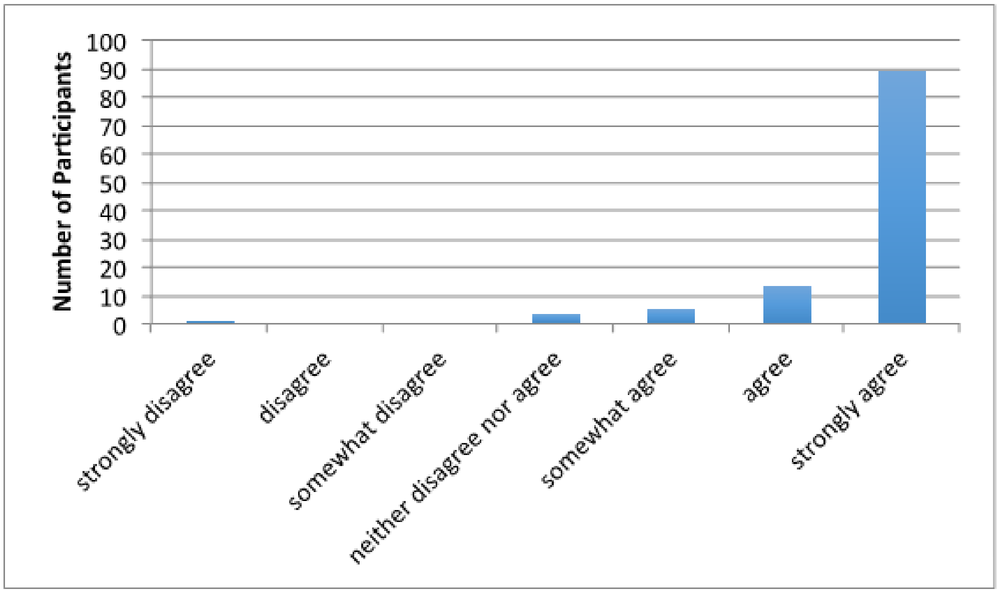


Figure 4.5. The team respected my ideas for my plan of care.

overwhelmed were skewed to the right, as shown in Figure 4.6. Respondents found that the team *seemed to work well together* (range 3 to 7, Mo = 7, Mdn = 7); the null hypothesis was rejected [D(133)= .502, $p< .001$].

There was no demonstrable effect from age range on *understood my situation*, $x^2 (6) = 7.53$, $p = .275$. Likewise, no other demographics had a statistically significant effect on any of the other tendencies among Likert-scaled variables (listened, gave information, respected my ideas, overwhelming, worked well together). The full test statistics are reported in Appendix H. When asked if they would rather see a healthcare team than see one physician or one nurse practitioner, patient responses ranged from strongly disagree to strongly agree, with responses centering on neither disagree nor agree (n=131, Mo=4, Mdn=4). Response frequencies are shown in Figure 4.7.

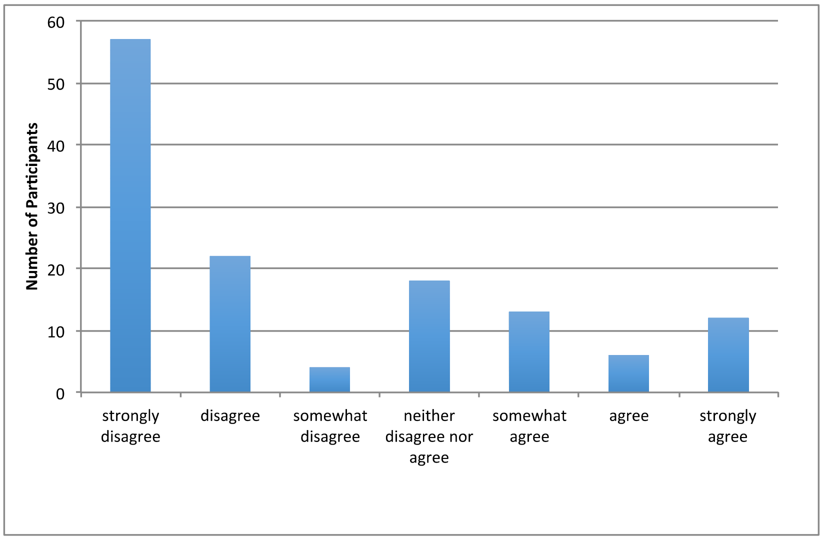


Figure 4.6. It was overwhelming seeing multiple team members at once.

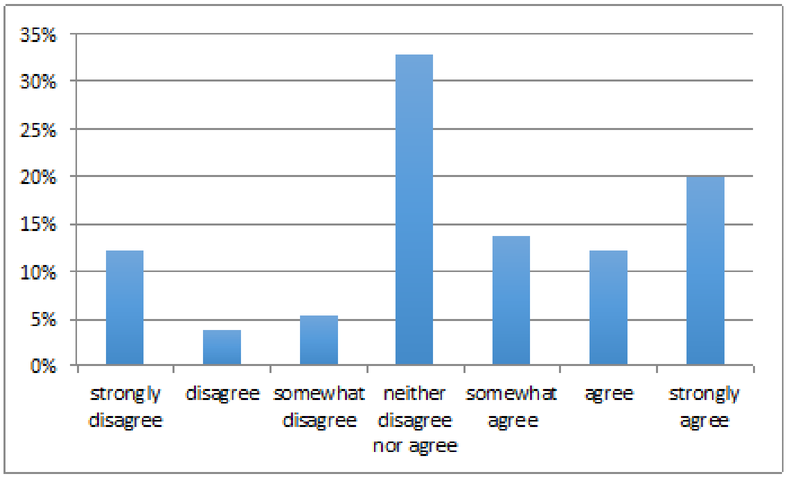


Figure 4.7. I would rather see a healthcare team than one physician or one nurse practitioner.

When asked whether patients would recommend a healthcare team over seeing separate providers to family and friends, the majority of responses were in the neutral to strongly agree range (n=131, Mo=4, Mdn=5). Responses were skewed to the left, with something of a bimodal distribution: a minority of 8.4% strongly disagreed, no one selected disagree, and 3.1% selected somewhat disagree, for a total of 11.5% disagreeing with the statement. By contrast, 31% were neutral responses of “4,” and 57.3% agreed (see Figure 4.8).

Multiple Choice and Open-Ended Results

For Some Concerns.

Patients were asked if they would prefer a team-based approach for some concerns but not for everything and given a multiple-choice response of *yes, no*, or *unsure*. To analyze the data, responses were coded numerically (where *yes*=2, *not sure*=1, and *no*=0). The overall response was affirmative, indicating that patients would see a team again for some concerns, but not for everything (n=122, Mo=2, Mdn=2). These data are represented in Figure 4.9. Patients were asked to describe their thoughts about preferences for a team-based approach, using the blank space provided, if they had marked yes or not sure. Forty-seven participants responded, with some expressing more than one idea for a total of 59 different responses. These data are categorized in order by percent of respondents expressing the same idea, as indicated in Table 4.2. All of the responses to this question are recorded in Appendix I. The category *two heads are better than one* was indicated as such by 11% of respondents in more or less similar language, while 47% of the responses described an appreciation of different specialists, more options, and having different ideas and opinions. Many respondents were either neutral (21%) or accepting of the ICP team-based approach (21%). Others said the ICP team-based approach would be acceptable in some circumstances, but not in others such as genitourinary examinations (17%).

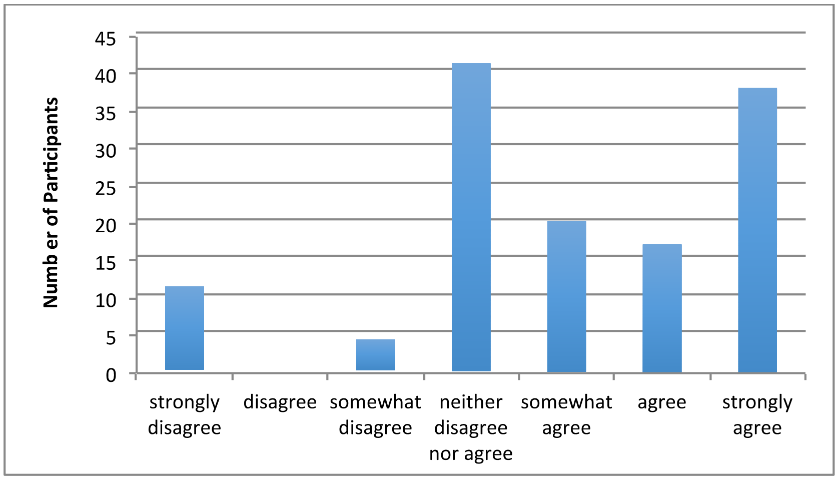


Figure 4.8. I would recommend a healthcare team over seeing separate providers to my family and friends.

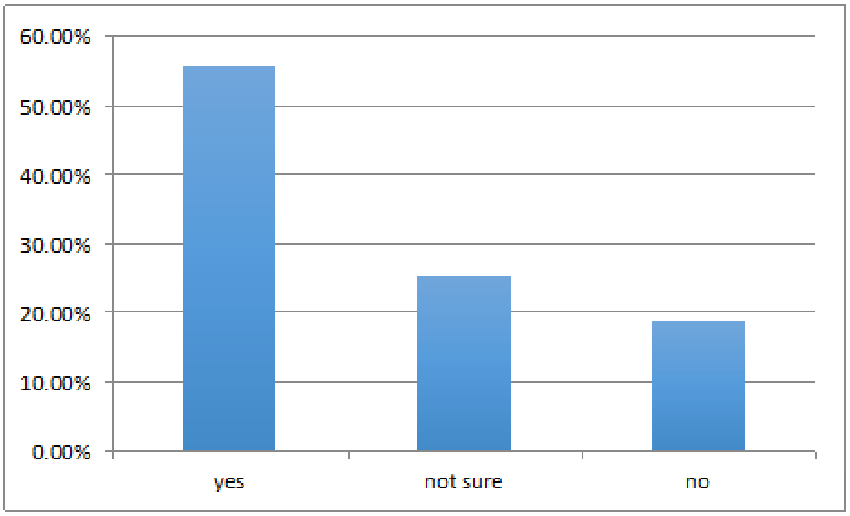


Figure 4.9. Would you prefer a team-based approach for some concerns but not everything?

Table 4.2. Would you like to see a team for some concerns, but not for everything?

Category	**Percent (%) out of 47 Respondents**	**Examples**
Neutral Comments	21	*Whichever gives me the adequate care is preferred.*
Positive Teamwork & Results	21	*The team approach is preferable. The different individuals "bounce" ideas off of one another to come up with a better treatment plan.* *Worked well together.*
Teams are Acceptable for Some Conditions, but Not for Everything	17	*Seems good for initial visit, but may not be good for follow up.* *Seems ok for some things.* *It would be good for some care, but not for female care like a pap exam.*
Specialties & More Opinions/Approaches	15	*Different people have different ideas and approaches and one may work better than another one for the patient.*
"Two Heads Are Better Than One"	11	*Two heads are better than one.* *I would rather have a team-based approach on everything, two heads are better than one.*
Plan of Care with More Input/Options/Outcomes	11	*The different individuals "bounce" ideas off of one another to come up with a better treatment plan.* *For more serious health conditions, a team would be beneficial and provide more peace of mind.* *Got more input from a team.*
Teams are Preferable	6	*The team approach is preferable.*
Uncomfortable	6	*Having more people in the room could make patient a little uncomfortable*
Efficiencies	4	*I can see the advantages of the team approach. Les visits and less travel.*
Information Overload	2	*I think it is information overload, but I also feel this approach could suit many people by saving time.*
Not Big on Doctors	2	*Don't like coming to the doctor.* *Not big on doctors, overwhelming.*

Six percent of respondents found that, “Teams Are Preferable” to *care as usual*, while another six percent found the approach to be “Uncomfortable.”

What Respondents Liked Most.

Next, patients were asked to write a response to the question, “What do you like most about the team-based approach?” One hundred and twelve patients responded (n=112), and many wrote two or three-part responses falling into as many categories. Thirty percent of the respondents described positive interpersonal behaviors, attitudes, and other attributes of PCC. Additional categories include the following: Thorough and Comprehensive, Problem-Solving, Specialties, and Combined Knowledge, Efficiencies, and descriptions of an enhanced Plan of Care. For example, one patient wrote, “Thorough—what one may miss another may catch plus specific area of specialty.” Patients perceived that the team “had ideas to the problems,” “different ideas and input,” and “they communicate with each other [and] debate to make the best choice of healthcare.” In total, there were 96.4% positive responses. A minority was neutral, for example, one wrote, “don’t matter.” Another was accepting but gave an example of when the team ICP approach would not be appropriate, “some things are ok, but when really sick one on one is better.” One responded with, “getting to go home,” which may have indicated dislike of the experience or humor, among other things. All of the responses are given in Appendix J, and a summary of categories and percent representation is shown in Table 4.3.

What Respondents Disliked Most.

Lastly, patients were asked, “What did you dislike most about the team-based approach?” The most frequent dislikes were having too many people in the room, taking too long, and receiving too much information. Some stated that they “don’t like coming to the doctor.” Other concerns were that it could be less personal to see a group and that the patient received,

Table 4.3. What patients liked most about the team-based approach

Category	Percentage (%) of Respondents (n=112)	Examples
PCC Constructs	31	*They were very respectful and welcoming.* *They were friendly and took the time to listen.* *They listened to me and what I need.* *They understand my problems.*
Specialties, Combined Knowledge, Multiple Opinions, Viewpoints, & Approaches	29	*Well-rounded knowledge.* *Different areas of expertise.* *The pharmacy student picked up different diagnosis.* *The fact that you're getting more than one opinion/approach to your situation.*
Teamwork and Collaboration	22	*They worked well together to figure out a solution for me.* *They worked together and didn't overpower one another.* *What one may miss another may catch* *They worked together for a common good to help me.*
Problem-Solving= Different opinions/more perspectives	19	*Could get a different feedback and they could consult with each other.* *Got to the root of my problems.* *That they discuss things together.* *Different ways of looking at your problems. Seemed more thorough.*
Plan of Care, More Options & Information	18	*It gave me an idea about other options for my health plan.* *Multiple points of view and more options.* *Lots of minds going one direction.*
Thorough & Comprehensive	13	*They all ask questions to help understand what's going on.* *They may ask questions others didn't think of.* *Different ways of looking at your problems, seemed more thorough.*
Other General, Positive Comments	7	*Wonderful experience.* *Like the whole thing.*
Efficiencies	4	*Didn't take long.* *You talked to everyone at the same time. You did not have to tell the same thing over and over to different people.* *Seemed like less time spent, both listened carefully.*
Discrepant Case	1	*Some things are ok, but when sick one on one is better.*

"less time with PCP." Altogether 23% of the responses cited specific dislikes. Interestingly, there 76.9% of responses gave positive statements to demonstrate that there was "nothing" they disliked. One patient wrote, "I can't think of any negatives. I would need to experience this approach more to form an opinion." Responses are summarized in Table 4.4 and all responses are shown in Appendix K.

Summary of Survey Responses

Overall, patients were very satisfied with their experiences of team-based care. Patients strongly agreed that they had been listened to, understood, respected, and talked to in a way that they could understand by the ICP team. Collectively, they disagreed that it was an overwhelming experience to see a team; however, a minority agreed that yes, it was overwhelming to see a team. Patients strongly agreed that the team worked well together. Regarding seeing a team rather than one PCP, patients' responses were mixed, with the mode and median centering on neutral (n=131, Mo=4, Mdn=4). Responses were also neutral to very slightly positive regarding recommending a team over seeing separate providers to family and friends. Patients affirmed that they would prefer a team-based approach for some concerns, but not for everything. A synthesis of themes and subthemes arising from the open-ended survey questions is shown in Table 4.5.

By far "Did Not Dislike Anything" was the category with the highest representation (a discrepant finding given when asked what patients most disliked), with 78% of respondents showing opposition to the question. Respondents were very pleased by inter-relational attitudes and behaviors, called PCC behaviors. Interprofessional qualities and teamwork occupied the following five categories. Similarly, there are differing experiences of time, with some describing efficiencies of the collaborative approach from multiple professions, while others noted impatience with the team process, which required more time. In response to the open-

Table 4.4. What Patients Disliked Most about the Team-Based Approach

Category	**Percentage (%) of Respondents (n=94)**	**Examples**
Discrepant Category: did not dislike anything	78	*Did not dislike anything about teams approach.* *Nothing* *n/a* *Was a good experience.*
Too Many People	10	*More people at once increases an already "white coat" high BP.* *Having so many people.* *My social anxiety, not sure which team member to focus on when talking to both.*
Time-Related Problems	5	*Time consuming.* *Not enough time with PCP.*
Uncertainty	2	*I can't think of any negatives. I would need to experience this approach more to form an opinion.* *Not sure.*
Repeating Concerns	1	*Have to retell some of the same stuff.*
Lack of Team Participation	1	*Just one of them talked the other ones did not say much.*
Too Much Information	1	*It is a lot of information all at once. It almost feels chaotic. I would prefer one on one interaction.*

Table 4.5. Integration of Survey Categories Related to Likes and Dislikes

Category	**Frequency of Expression Among Respondents**
Did Not Dislike Anything	78
PCC Constructs	31
Specialties, Combined Knowledge, Multiple Viewpoints & Approaches	29
Teamwork and Collaboration	22
Problem-Solving	19
Plan of Care, More Options & Information	18
Teams are Acceptable for Some Conditions, but Not for Everything	17
Specialties & More Opinions/Approaches	15
Thorough & Comprehensive	13
“Two Heads Are Better Than One”	11
Too Many People	10
Positive Comments, Other General	7
Teams are Preferable	6
Uncomfortable	6
Time-Related Problems	5
Efficiencies	4
Not Big on Doctors	2
Information Overload	2

ended question regarding preference for a team versus one physician or NP, six percent found teams preferable to *care as usual*, 21% said they would see whichever model would give them the best outcomes, two percent were uncertain and needed more experience with ICP to form and opinion, and six percent were uncomfortable with the number of persons and would prefer a model based on *care as usual*, expressed as having a one-to-one relationship with a HCP. An additional 62% cited specific attributes of TBICP that they liked, and 10% cited aspects that they did not like.

Interview Results and Findings

Introduction

This section provides an overview of the participants who were interviewed and describes how the TBICP visit took place, in the patient's words. Next, thematic findings are presented, centering on the patient's experience of TBICP to identify what figured centrally to the patient. From a phenomenological perspective, what a patient describes and discusses constitutes what matters most (Sohn, Thomas, Greenberg, & Pollio, 2017; S.P. Thomas & Pollio, 2002).

> *Capturing the essence of a phenomenon involves scrupulous attentiveness to the particular words, metaphors, and phrases chosen by participants to describe their experiences* (Sohn et al., 2017, p. 135).

Participants

Twenty-one people (also referred to as participants or patients) were interviewed. Saturation was reached by the fifth interview, but continuing to interview provided the rich, thick descriptions and rigor to confirm trustworthiness of the findings. Notably, while the few discrepant results emerged early (within five interviews), two of the last interviews offered more depth, context, and definition to the negative cases. According to the person's preference, 19 interviews occurred over the telephone, and three occurred in person, at the Subway restaurant inside the Wal-Mart store nearest to the participant. One interview was conducted with the person's caregiver, who was also his parent. Interviews averaged 24 minutes in duration (range 12 to 37 minutes). Characteristics of the interview participants are shown in Table 4.6. There were 16 women and five men. Age groups ranged from 18-24 to 65-74, with the mode and median centering on 55-64 years of age. Participants were primarily from Appalachia (71.4%), with 28.6% from other regions who had moved into the area. Most participants were White

Table 4.6. Participant Characteristics

Pseudonym	Gender	Age Range	Race	Native to Appalachia (yes/no)	Years at Clinic	Self-Report of Overall Health	Self-Report of Mental Health	Highest Level of Education	Insured (yes/no)	Type of Insurance
Amanda	F	25-34	White	yes	3	Good	Very Good	Some college	Yes	Medicaid
Cora	F	55-64	White	yes	7	Poor	Poor	HS Graduate	Yes	Commercial
Daniel	M	45-54	“White & Black”	yes	<1	Fair	Fair	Some college	No	
Carly	F	18-24	White	yes	2.5	Poor	Very Good	HS Graduate	Yes	Medicaid
William	M	45-54	White	yes	4.5	Good	Good	Some HS	Yes	Commercial
Billie	F	55-64	White	yes	2	Poor	Good	HS Graduate	No	
John	M	18-24	White	yes	3	Very Good	Excellent	Some HS	Yes	Commercial
Amy	F	25-34	White	no	2	Good	Fair	Some college	No	
Cissy	F	55-64	“Cherokee & Irish”	yes	2	Good	Very Good	Some college	No	
Sara	F	25-34	White	yes	>25	Fair	Poor	Some HS	Yes	Medicaid
Beth	F	55-64	White	no	16	Fair	Good	Some college	Yes	Veterans Admin.
Mary	F	35-44	White	no	>10	Very Good	Very Good	4 year college	No	
Ann	F	55-64	White	yes	2	Good	Fair	HS Graduate	Yes	Commercial
Ruth	F	55-64	White	yes	3	Good	Very Good	Some college	Yes	Commercial
Gary	M	35-44	White	yes	>35	Very Good	Very Good	more than 4	Yes	Commercial
Sue	F	65-74	White	no	2	Good	Excellent	HS Graduate	Yes	Medicare
Jane	M	65-74	White	no	<1	Very Good	Very Good	Some college	Yes	Medicare
Carol	F	45-54	White	yes	15	"Fair to Good"	Very Good	HS Graduate	Yes	Medicare
Iris	F	55-64	White	no	3	Fair	Good	HS Graduate	Yes	Medicare
Sandra	F	65-74	White	yes	5	Good	Excellent	Some college	Yes	Commercial
Rita	F	55-64	White	yes	>20	Very Good	Good	<8th grade	Yes	Veterans Admin.

(90.5%); one was “Cherokee and White,” and the other was “White and Black.” Similar to the larger survey population, the median educational level was a high school diploma (33.3%), while the mode was to have had some college education (38%). Two participants had graduated from four-year colleges, and one of those had continued beyond a four-year program with graduate studies. The average number of years patients had been established at either FQHC was 7.8 years. Regarding health insurance, 76% said that they were insured, and 24% had no health insurance of any kind. Of those who were insured, 44% had a commercial carrier, 25% were on Medicare, 19% had Medicaid, and 13% had Veterans’ Administration health insurance.

Most participants named some of their acute and chronic health concerns. These are listed in Table 4.7. Participants described their overall health (Figure 4.10) as somewhat worse than their mental health (Figure 4.11) self-health ratings. Notably, not one interviewee described their overall health as excellent: the mode was *good* (38%), followed by *very good* (24%), *fair* (24%), or *poor* (14%). Self-perception of mental health was slightly better, with the predominant response of *very good* as the mode (38%), *good* (24%), *fair* (14%), *excellent* (14%), and *poor* (10%).

How ICP Took Place in The Patient’s Words

Patients (also referred to as participants, respondents, and persons) identified that first, several team members entered the room and introduced themselves, asked questions to elicit information about the patient’s needs or concerns, then examined the patient. Participants were able to identify two or three of the four professions represented--nurse practitioners, nutritionists, and pharmacists--but they did not identify public health. Their descriptions demonstrate how the team worked together.

Basically, they came in and, uh, introduced their selves, and, you know, they kind of

Table 4.7. Acute and Chronic Conditions Self-Disclosed by Study Participants

- Anxiety
- Arthritis
- Autoimmune disorder
- Bipolar mood disorder
- Chronic obstructive pulmonary disorder (COPD)
- Chronic pain, undiagnosed cause
- Depression
- Diabetes
- Frequent falls
- Gout
- High cholesterol
- Hypertension
- Oral lesions
- Orthopedic injuries
- Overweight or obesity
- Pancreatitis
- Pneumonia
- Post-traumatic stress disorder (PTSD)
- Reaction to bee sting
- Seizures
- Restless legs
- Skin lesion
- Substance abuse
- Thyroid disorder
- Urinary incontinence

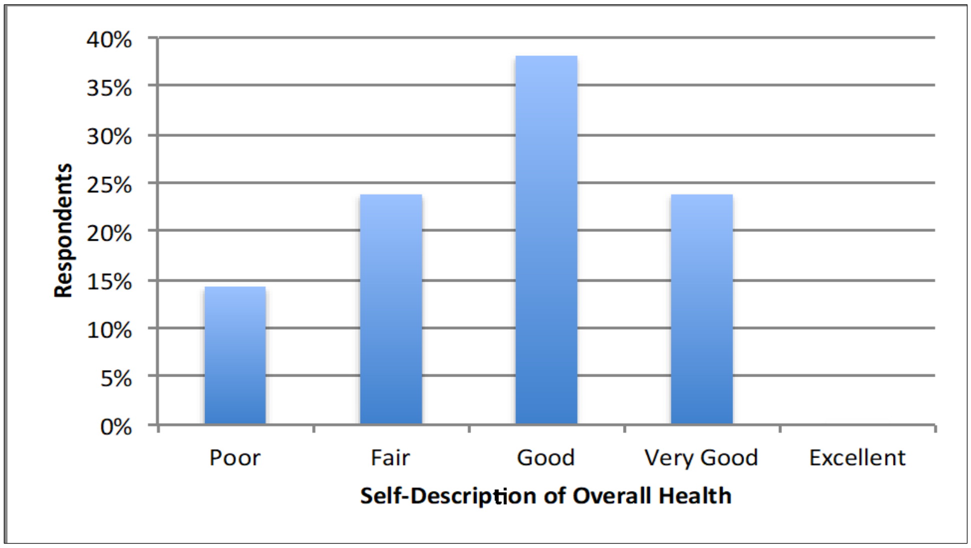


Figure 4.10. Interview Participants' Self-Description of Overall Health

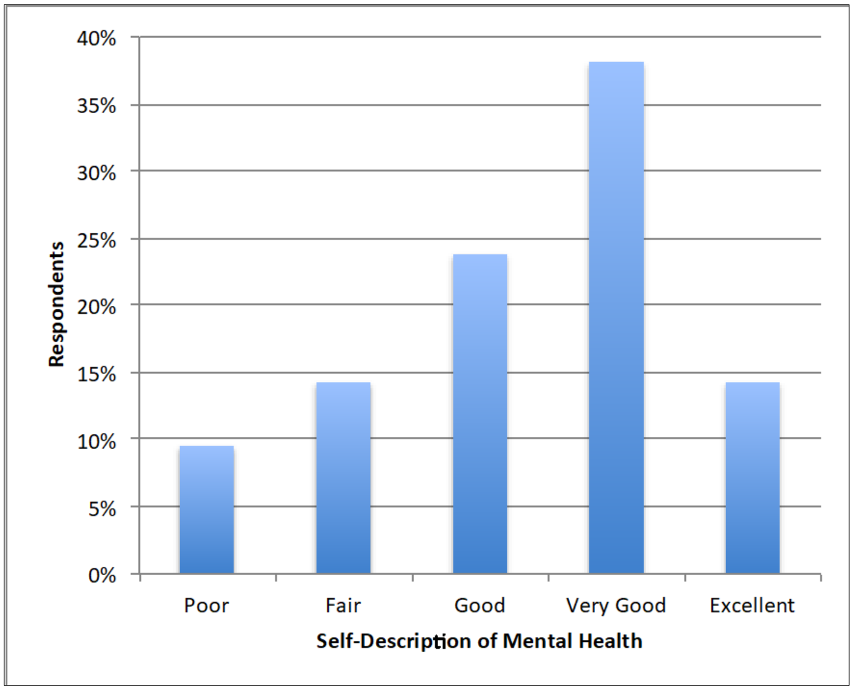


Figure 4.11. Interview Participants' Self-Description of Mental Health

talked about their backgrounds and, of course, I kind did the same just real short. And you know, they asked… why I was there. I, I've changed a lot of my habits. You know, the way I eat, the way I sleep, the way I eat. I mean basically I've 180'd on a lot of stuff… They asked me about my nutrition. You know, the nutritionist was there too just kind of asking me, you know, what my eating habits were and how I, do I balance out my good and the bad with my proteins and, versus vegetables. You know, the, uh, the nurse practitioner, he, he was just kind of giving me a once overall... any aches and pains. You know, checking me out for any, you know, abnormal heart rhythm or breathing. You know, listen to my lungs, listen to my heart. You know, just normal check-up type stuff. So, and they, they both, uh, you know, seemed very pleased with where I was at and the

> *direction I was going. And uh, uh, really just wanted me to keep up what I was doing. So, but yeah, it was very good to that they both, you know, shook their head and like you are doing the right thing. You know, that was very, I guess, uh, what's the word I'm looking for? Uh, it was good to hear. You know, when you're doing the right thing, and it's showing. Proof's in the pudding basically (laugh).* (Gary)

Gary found that ICP team activities were similar to a "normal check-up," including meeting the person, asking questions, and a physical examination. Gary particularly enjoyed receiving confirmation from the team nodding their heads in agreement that he was doing well with the lifestyle changes he had made.

None of the participants had previously seen an ICP team. Amy found the new experience overwhelming in the beginning, but a good concept.

> *It was a little bit overwhelming at first just because it was a new experience--there's more than one person to give your attention to, but overall I think it's a good concept.* (Amy)

Calling Clinicians "Doctors."

Many patients referred to clinicians as "doctors," to refer to any primary care provider or members of the team, even members whom they recognized as students, despite the fact that no physicians were involved with any of the patients or ICP teams during this study. In some cases, patients refer to professions specifically by name. Unless specifically stated as a "physician" or other profession in the patient's narrative, the term "doctor(s)" could describe any type of healthcare professional.

> *When both the doctors* [student team members] *were in there, they were…writing about which medicines would work best and which ones may or may not…so they were, they were deliberating back and forth about which medicines would work.* (Carly)

> *Like with* [name of FNP who left the FQHC and was Amanda's PCP], *she would hug me, ya know? Like she's like,* 'let's say a prayer,' *I mean it kind of feels like you know the person. When you pray with somebody you know them. Ya know? So, even if it is a doctor, when they pray with you, they're family.* (Amanda)

Explaining Team-based Interprofessional Care.

Patients described their experience of how team members worked together through communication, sharing ideas, asking questions from multiple professional perspectives, dividing responsibilities, and providing information and counseling to the patient. Many patients discussed receiving help from the ICP team regarding how medications should be taken, side effects, and interactions. They also mentioned discussing diets and nutrition. They identified the multiprofessional aspects of the team.

> *Well, it really went well. Like each one of them came in to address a problem. One came in to look at my foot, and then to talk with me about my symptoms and what was going on and everything like that. And one came in with ideals on my nutrition, dietary, and, uh, just, uh, and then one came in to try to see what might work. You know, the prescription or what kind of medicine I might need or something like that. And they were pretty thorough… And they were really good with, uh, if I had questions on the side effects or whatever, you know, different things regarding the medicine. And I just, and they were just really good. They looked at it from different viewpoints, I guess. And I thought that was interesting, and I thought it was a very smart thing to have is different perspectives on it.* (Ruth)

Often what set the ICP appointment apart from care as usual was both the in-depth investigation of concerns, and also individualized counseling on medications, nutrition, and dietary counseling.

> *I mean it was nice. Like I said, I learned something new about medicines I've been taking for years because that's what this one particular part of the team was specializing in. Um, they seemed, uh, it's hard to say because they're, they're young and they're students, and they're, they're, um, they're so, so eager and fresh-faced and enthusiastic. And I hope they can keep that throughout their careers because it's really refreshing.* (Beth)

Patients recognized that the ICP team was comprised of students from different professions, and many appreciated their enthusiasm and positive attitudes.

Thematic Analysis

One overarching theme and four subthemes were identified. A summary of narrative findings and themes is shown in Table 4.8. The core concept or overarching theme, *two minds think better than one,* included multiple variations such as *more eyes, more ears listening, more opinions, more heads,* and *bigger spectrum.* How are more professionals or simply, "more," better? Four supporting themes further define the concept of *more*. In subtheme one, concepts related to interpersonal behaviors and PCC constructs are represented by the theme, *they listened to everything I had to say.* In theme two, patients identified interprofessional questioning (the process of inquiry and examination) as *let's go through the whole process.* In subtheme three, participants focused on how the interprofessional team worked together collaboratively (the process of problem solving) as *there was minds coming together as far as what could possibly be the matter.* In subtheme four, participants noticed how team members reached agreement

Table 4.8. Summary of Narrative Findings and Themes

Overarching Theme	*Two minds are better than one.*			
Supporting Themes	*They listened to everything I had to say.*	*Let's go through the whole process.*	*There was minds coming together.*	*The best care plan for me.*
Categories	**PCC**	**Inquiry**	**Problem Solving**	**Planning**
Patients Experienced:	Listening Care and concern Friendliness Attention Enough time Respect Kindness Understanding Accessible language	Questioning Listening Staying on topic Examining Many viewpoints Different approaches Thoroughness Individualized On the same page	Deliberating Discussing Looking up resources Verifying Accountability More options Comprehensive Knowledgeable Consensus	Thorough More options Feel better Explaining in-depth Reassurance Confidence Individualized plan Quality Efficiency

by sharing different opinions on an interprofessional plan of care (the process of designing a plan of care through collaboration and consensus) as *more confident that it would work for me.*

Core Concept or Overarching Theme*: Two minds are better than one*

Throughout the narratives, the predominant theme was that *two minds are better than one*, which was also described in many other ways to convey that an interprofessional team can think, watch, listen, explain, or ask questions better than can one healthcare provider working alone. This was succinctly stated as

> *I liked the team approach. I think sometimes, um, you can get more opinions, and it's a bigger spectrum of people and their knowledge.* (Mary)

Patients said that a team of people representing different perspectives and knowledge would yield better results, and "more well-rounded" healthcare. They valued the experience of having heard and seen the different approaches taken by the interprofessional team members, who worked together on a problem or set of healthcare concerns. They saw that there were many different aspects of care and perspectives that different professionals could bring while working together with one patient.

Accuracy and accountability were cited as two results of having a team of HCPs. The idea of accuracy stemmed from having more persons to remember and identify concerns, identify symptoms, and make observations. Accountability was described by patients as actions that interprofessional team members took to stay on task towards a goal for the patient; address the concerns of the patient; verify findings and diagnoses; consult resources for evidence-based treatment plans; and give report to a preceptor and receive her guidance on a plan of care.

Participants stated that a team could accomplish more, while practicing with more accuracy, and achieving better results. Results were described in terms of carefully identifying problems, ordering diagnostic testing, referring to specialists, prescribing a new medicine, advising how to take a medicine properly, advising on specific dietary changes suited to the individual's preferences and needs, and teaching the patient about a condition such that it could be better managed by the patient. Patients observed how the different HCPs brought different experience, knowledge, and insights to patient care—often referred to as opinions and perspectives. One patient described the team as being "on point," which to her meant that the ICP team stayed with an idea from start to finish before moving on to another topic.

People saw the interprofessional team as being more efficient, since it not only addressed multiple health concerns during one visit, but also addressed them from the perspectives of multiple disciplines. Their perceptions of time, and how long it took to see and ICP team, varied.

Some described the encounter as very efficient and timely. Others said it took longer than their usual healthcare appointments, but it was worth it because of the attention and quality of care they received.

Some excerpts from the narratives representing the overarching theme, *two minds are better that one,* are represented as follows.

> *I felt like, it was a more well-rounded medical visit just due to the fact that there was different aspects of the healthcare being looked at.* (Amy)
>
> *You know, they're all looking at different aspects of things, and they may see something that the other one doesn't, but it really would be, it'd take some of the stress off of just the one doctor themselves to have to look and to answer every problem and have to look at every aspect. Whereas, if you've got a team, as they say, two minds I guess is better than one (*laughing). *But I just think that, and I really, it was a good experience, and I would like to have it again. It would be fine with me that every time I went to the doctor that they would be there for certain things that's going on with me and that's the kind of doctor I would see…It was to me, it was a very, it was one of the best doctor visits I have had in a long time* (laughing). (Ruth)
>
> *I thought it was nice, uh, because I always think that whenever you see a team of people, one mind works different than the other. And so, if you have certain problems or whatever, one of them may give a different insight on, too, than what other people what the other one might think. You know, one may see something that, you know, the other one doesn't.* (Ruth)

Patients stated that they preferred a team approach for complex, chronic, urgent, or life-threatening conditions and difficult diagnoses, and help with managing self-care and a complex medication regime; however, they did not prefer a team for simple, acute care visits (for example a sore throat) or more "private" or "personal" matters such as those involving examinations of female or male reproductive systems. Most patients saw the ICP team as providing them with something "more," but that they would not access the team on every healthcare visit:

> *I mean if I had been coming in for problems you know in my downstairs I probably wouldn't have wanted the whole team to come hang out. But, other than stuff like that…so ya know, two heads think better than one.* (Amanda)

Two patients said that a mental health condition probably made them feel some discomfort with multiple persons in their examination room. One said that she was "manic depressive" and that this made her feel "closed in" around groups of more than two people. Another person with "PTSD" said,

> *I didn't think about how crowded it would be in there, which it really wasn't that crowded to a, you know, to most people, but it was a little crowded to me but that's one of my, you know, one of my things. It is the crowd. So, it was a little confined, but they came in. They were all really, you know, personable and nice. (Daniel)*

Despite the initial discomfort, both of these participants went on to say later in the interview that they would value adding a mental health professional to a future ICP team, if given the opportunity.

> *If maybe I could talk to a mental health person one-on-one, and then they could go and tell the other team about well '*maybe her mental health is what's affecting the pain in her body,*' you know. And, uh, affecting her stomach too. Because I know, being upset, it can cause your stomach to be upset too, you know, you see what I'm saying? Oh, I've, I've never, uh, I've told them about my depression, and they've asked me about, uh, how*

> *severe it is and all that, if I wanted to hurt myself or someone else, but no um, huh-uh. No, I haven't saw anybody that talked to me specifically for that. And maybe if I did, I could, uh, she, she and or he, whichever, could talk to the pharmaceutical and, and figure out something that would help me. That could help my mental health but would help some of the symptoms of the other parts, you know. The pain in the other parts.* (Ann)

Discrepant Case Analyses.

One participant voiced a strong preference for care as usual, provided by one HCP (or *uniprofessional* HCP).

> *I'm basically a one-on-one person. I've never been checked out or looked at by a group of people. Ah, it kind of put me on the spot, and to be honest I didn't believe, but as you get older, it's hard for change…I get comfortable with one person, that's who I like to see, and unless they refer me to a specialist, you know.* (Sue)

During the interview, she talked about several positive aspects of the group visit. Later, she self-reflected, saying,

> *So not everybody my age is like me: they don't mind a group. Huh. But I'm just different. I'm just a private, I'm just a private person*. (Sue)

Another patient, Ann, shared her unhappiness with multiple aspects of healthcare and the recent death of her mother in hospital, where seeing multiple providers was like "a revolving door" that left her feeling that no one cared. She shared that she would see a team for a hospital emergency; however, in the primary care setting, "I'm not gonna sit there and share my life story with a team."

Supporting Theme I (PCC and Interpersonal Behaviors): ***They listened to everything I had to say.***

Patients recounted many interpersonal behaviors in TBICP that stood apart for them as being unusually positive, such as the experience of feeling heard (in contrast to previous experiences), being cared for, and treated well. While some patients contrasted the new phenomenon of TBICP to recent experiences of *care as usual* in their FQHC, others were very careful to say that they received good care at their FQHC and were describing more remote past experiences, which occurred prior becoming patients of the FQHC. This theme is captured with the quotation, *They listened to everything I had to say*, which encompasses many additional concepts central to relational, interpersonal behaviors and PCC, such as establishing rapport through kindness and respect, using accessible language, prioritizing the patient's concerns and values, and spending sufficient time to work on the person's healthcare needs.

> *I need more of that* [ICP team]. *They care more about the patient than the God-all, uh dollar, you know... I feel like they're in it to help people.* (Cissy)

Many participants described how "nice" or "kind" the team was, exemplified by Ruth's succinct example.

> *They were all very pleasant and nice and, you know, they came in, they got to the point. And they were concerned.* (Ruth)

Below, Sarah names several constructs related to PCC and interpersonal behaviors and provides specific examples that were important to her.

> *Yesterday was probably one of the best days I've had. Um, the ladies that was there with the team, um, both of them were very caring, were very on-point. Um, the one lady for the pharmacy or whatever, that was studying for the pharmacy, she had taken the time,*

> *which nobody has ever done for me, and I have, I’m on tons of meds literally, I mean this. And she was taking the time to write down medications that I have been messing up for years apparently and told me which medications and how many hours to leave those apart. Um, and she did not have to do that. And nobody has ever helped me with that ever. And, and then so the other one, she would take the time to listen to me, as well as explain things to me. They were very friendly. It was just the best experience I’ve ever had. I’d rather have more people in my room like them rather than just one person.* (Sara)

Sara names constructs related to PCC such as “caring,” “taking the time,” listening, explaining, and being friendly. She emphasized how different this experience had been for her. During her interview, she expressed gratitude for the ICP experience and how the team had listened attentively, offering sufficient time to explain herself without interruptions and distractions.

Most patients commented on how the team was able to establish rapport. Sometimes putting the patient at ease was as simple as an introduction. Nancy contrasts her initial experience of the team to feeling “lost” during an experience with cancer treatment.

> *I was never sick before I had the cancer. I was never sick. Well, I had my appendix and gallbladder, but that was normal thing, but I never had like, you know, even when I was little I never went to the doctor…They took, went around and told you,* ‘you had it*,’ and told you what they were going to try and do, but they didn’t explain nothing really. So, when I went like in the chemo room, I was lost. You know, I didn’t know what to expect. And like the other day when I was there Friday* [with the ICP team]*, they each told me their name, their profession, and stuff, and it seemed like they was going to be really nice people, you know, and tell me what’s going on…They explained everything. What they*

> *was doing, when they was doing it, and I was explaining what was hurting and stuff, and they would check it out.* (Nancy)

Nancy points out how important it is to explain a new process to a patient and to create rapport, such as who is involved and what is about to happen. These gestures alleviated some of her fear and anxiety associated with a new medical experience. By doing so, the ICP team made her feel like she was working with "nice people." She points out that the team heard her and committed to examining what was causing her pain. To Nancy, it was important to act on her concern, by examining her, after hearing about a physical symptom. The idea of acting after listening was expressed during the interviews in different ways and repeats in subsequent themes. Often patients described this as "following up" on a problem, "following through" on a problem, or being more "accountable" to following hearing with action, because the problem was collectively heard and remembered and therefore more likely to be addressed.

Participants described how the team listened to them with full attention, while the person told the full story of each health concern, as in, *they listened to everything I had to say*. Tied to the quality of listening were factors such as body language or positioning of team members, positive attitude, listening fully before diagnosing, asking questions related to the topic, and responding to the patient using reflective language that demonstrated that the patient was heard and understood. Participants also highlighted the importance of listening to the full range of health concerns without jumping from one topic to another while looking at a computer. Many participants noted the qualitative differences in listening behaviors, located in body language, such as stance and eye contact, using closed-loop or reflective statements, and taking notes.

> *I feel like they did really good! They listened to everything that I had to say. [Interviewer: how could you tell?] Just behavior as far as making direct eye contact and kind of verbal*

> *and nonverbal agreement with what I was saying, making notes of what I was saying, as well as kind of repeating a little bit back to me of what they heard me say umm when, when explaining ya know their reason for a, I think one of them was um due to the color of my urine they decided that they wanted to do a urinalysis and ya know they repeated back to me what I had explained to them as far as my symptoms went so I knew they had actually listened to what I had said.* (Amy)

The TPRG identifies a respondent's use of emphatic adverbs such as "actually" or "even" as a way of comparing a phenomenon to different past experiences. In the above excerpt Amy stated, "I knew they had *actually* listened to what I had said." By reading through the full transcripts of respondents, the use of multiple emphatic adverbs illustrate how different the person's experience of a phenomenon was in comparison to past experiences.

Supporting Theme II (Interprofessional Inquiry and Examination): *Let's go through the whole process.*

Supporting Themes I and II are tightly interwoven. While it is a central tenet of PCC, the act of attentively listening is also integral to inquiry and consideration of the patient's concerns. Subtheme II describes ICP inquiry and is particularly concerned with the thorough and comprehensive manner in which the team sought to understand the patient's concerns and health status. This theme could equally have been entitled, *Nothing was swept under the rug,* as Cissy describes:

> *Well, it wasn't just coming in and just talking about this or that or whatever. They would, they would ask,* 'And now what else? Is there anything? What's going on right there?' *You know? (cough) Nothing was dismissed! Okay? Nothing was swept under the rug. They wanted to know about everything because that's helping them learn.* (Cissy)

Cissy echoes a sentiment running throughout many descriptions of the patient's experience, ascribing positive actions taken by the team to learners. In the above passage, Cissy attributed the thorough inquiry to the team, but in her eyes, these were also the actions that good students would take, a theme that ran throughout her narrative.

Patients commented on the number of interprofessional "opinions" and depth of the questions asked. Patients discussed enhanced accuracy or a sense of safety in numbers, that if one team member missed something, another would identify it and pursue the problem. They liked the multiple perspectives and specialties of different kinds of health professionals and perceived this as an increase in the quality of attention and care they were receiving. Patients found that there was a thoroughness and accountability located in the team-based process. Patients were struck by the multiple "opinions," perspectives, and questions voiced by the ICP team. They saw that the questions came from multiple professionals representative of multiple disciplines, each with varied training and experience. Often, they referred to the team or particular team members as "knowledgeable." While gathering data and inquiring into patients' situations, the team interspersed their conversations with information. Patients said that they provided "tips and feedback," and that the team members used understandable language.

> *It was different because you they each had their own questions and voiced their opinions while in there instead of just having one person asking the questions about which medicines usually work best for me and so on.* (Carly)
>
> *They didn't make me seem like I was, uh, less intelligent than them, you know. And they talked to me in, on, in terms that I could understand. And, uh, just, I thought they were very friendly and very helpful…I had never had somebody that knew about the medicines that I was, uh, the nurse practitioner was asking me about. I wasn't used to having*

> *someone right there in the room telling me if that was a, a good, uh, drug to take for what’s wrong with me. I liked that, because she was very knowledgeable.* (Ann)

Participants liked the interview and examination process, because the team focused on their concerns from start to finish, or as one person called it being “on point,” meaning, “they’re not…going to another question and then coming back to that one, so they’re just right there with that one thing” (Sara). Patients noticed that the team gave their attention to them, rather than turning to the computer screen or being led by computer-generated questions.

> *They just came in there so much differently than my regular doctor. They [my regular doctor] just ask you questions, and they’re always focused on their laptop, so they’re never on-point with you or looking at you. Um, they’re just constantly typing before, um, before you really get anything out. You know, you don’t get no expressions; you get nothing…and the team is more like,* ‘Let’s go through the whole process.’ *And so, when they go through the whole process like that, I can remember, um, what’s going on and so I don’t leave nothing out. So at the end of the visit, I felt like I got it all out, and I didn't leave nothing. So, yesterday…I didn’t leave and say,* ‘oh my gosh I forgot to tell my doctor this.’ *I don't have to wait til my next visit.* (Sara)
>
> *I felt like the whole time they were more, they were concentrating on me. Not just trying to keep me there or whatever, but coming in and out. Now, they’d go and study things, and then they’d come back in and tell me,* ‘well this, this, this,’ *and to me, that, you know, they seemed like they were, uh, like on a one, one-on-one thing. Not hurrying up to get out of the office to take care of somebody else and get rid of them. You know what I mean?* [Interviewer: *What was it like, feeling like you helped them?*] *Well, to be honest with you, I felt like I was helping too. I felt like I was helping them to learn more. And I*

> *felt like they were, uh, really delving into what was the matter and really trying hard to figure out the plan of attack.* (Cora)

Other participants commented similarly on how carefully the team listened, such that they did not forget to mention important details or ask the ICP team questions during the appointment. One person noted how different the team encounter was versus dealing with care as usual, because the team asked her if *she* had any questions.

> *Well, my doctor or nurse practitioner or whatever, they just, they just run in and do what they got to do and leave. They don't really have much time. They're just not real helpful in some areas... Well, they* [the ICP team] *kind of was in there. Most, of course, they asked a lot of questions, which I guess to get the full picture they had to ask questions. And, you know, then they offered some tips and some feedback. So, if I had any questions; they asked if I had any questions! They don't ever do that, so... Well, it felt different. I thought golly, you know, what's going on here today? But, but I guess, too, and I understand they have to learn, but in order for them to learn they have to ask questions, and then they have to pull my feedback to get the full picture I think.* (Iris)

To summarize Subthemes I and II, patients found that the ICP team delivered highly PCC while conducting a thorough process of inquiry and investigation of their healthcare concerns.

Discrepant Case Analysis.

William found that he was a little nervous when the team first entered, and that answering questions was confusing. He was the first patient the team had worked with, and some on his team had never before interviewed a patient in a clinical setting. His example demonstrates how differently a team can be experienced when some team members appear inactive.

> *At first it was a little nervous like, ya know, three people coming in. The one with the laptop and all that she was a real talkative person, asked a lot of questions and the other two didn't say much at all. Just them askin' me about my medicines and what I took in the past all that; it was kinda confusin, cause there ain't nobody that remembers all their medicine they take. (William)*

He focused on how two of the three team members in his room did not talk, make notes, or seem to participate actively in other ways. He equated asking questions and being more active in the shared conversation as evidence of caring.

> *It was a lot different, probably* [having people in the room] *and just asking' a lot of questions, ya know, like someone that cares. Ya know, ya got different, different people, one that cares more, one that, that kinda cares ya know?*

In his example, actively asking questions is an act of caring and remaining silent without obvious reason for being there was not caring and not contributing to the team. He went on to describe how the rest of the team could have helped the one who was doing most of the talking and how that would have demonstrated their purpose in working together. William was the only participant who described having inadequate participation from team members. William's experience of TBICP occurred during the first weeks of the first clinical semester. His experience of TBICP was also the first experience of TBICP for the student learners on his team. Three out of the four students were inexperienced and their encounter with William was their very first or among their first with any patient. By contrast, the pharmacy students had already worked in some clinical settings with patients.

Subtheme III (Interprofessional Collaborative Problem Solving): ***There was minds coming together as far as what could possibly be the problem.***

Multiple perspectives among team members led to thorough discussions with the patient about health concerns, symptoms, medications, and lifestyle. While with the patient, the team members discussed and debated their different professional “opinions” and “perspectives” as they worked together to identify problems and diagnoses and how to treat them. Seeing and being part of the interactions not only demonstrated the interprofessionality of the team to the patient, but also demonstrated how the patient’s ICP team collaborated to solve problems. Participants commented very positively on how the team talked amongst themselves, and with the team. They could see the HCPs at work in front of them. They appreciated it when team members were honest about not knowing all the answers and instead told the patient that they were consulting resources for guidance, including computers, books, and the faculty and FNP Preceptor. Many patients seemed to prefer that the team freshly review the facts and related references and resources more than having someone know immediately how to treat the condition or concern. Students were viewed as positive assets in this regard, because they ‘looked things up,’ to check and verify their understanding and a potential plan.

Patients remarked on the thoroughness of physical examinations, which extended to include anything bothering the patient, not just one identified problem. The contributions of the professions that were not usually a part of their healthcare appointments (such as dieticians, pharmacists, and public health professionals) were frequently mentioned. They commented on the “in-depth” reviews of medications, diet, exercise, and the patient’s lifestyle and how each of these might be contributing to their individual health. During one visit, the team identified that a medication might be contributing to increasing blood glucose levels.

> *Well, they were really nice. I thought they did a good job. You know, they like talked to us and then talked to each other and explained everything they wanted us to know, and they*

> *did a good job…when they figured out that the diabetes was caused by the medication. A lot of times people don’t think about that…well they checked me really well. Like they even checked my feet, you know, to see if any numbness was there or anything.* (Billie)

When describing what they experienced, patients used a variety of terms to describe team collaboration, including *deliberating back and forth, relaying back and forth, working together, talking to me and talking to each other, going into depth, bounc*[ing] *ideas, asking questions,* and *trying to figure out everything.* Below, a couple of patients describe their experiences.

> *When I was talking to the um the gentleman…and I believe it was a nurse practitioner, about health concerns and he was asking me questions at one point in time the one that was the pharmacist kind of asked a little more questions to understand from his side of things about what was going on and so I feel like there was minds coming together as far as what could possibly be the problem. To where like instead of working on a problem with one person doing it, you have different perspectives on it, and ... they kind of worked together on the possible problem... It was a little bit more in depth as far as nutrition and overall health went than it would have been with just one doctor.* (Amy)

> *They asked a lot of questions and tried to get down to what was uh the matter… They got down to the nitty gritty… They addressed every concern that I had. That's one thing. Where a lot of times in the past… where I'd been going to another clinic, it was just,* ‘yes ma'am thank you ma'am*,’ and out of there. You know... every time I'd leave I felt like, well they didn't do anything and address anything that I was concerned with.* (Cissy)

> *And you know, they really wanted to get to what the problem was and, I mean, it was just a little different like I say because it takes it a little more time and whatever, but to me it was worth it... In fact, the dietician when she was talking to me, you know, and she was*

> *telling me like the different things that, uh, I would need. You know, maybe what causes gout, you know, and the different foods that would cause that to flare up, and then also she made a list of things. She gave me a printout on paper about gout, and the different things that I could do that would help it, you know, and help prevent it. And, uh, I thought that was really nice.* (Ruth)

The above quotations exemplify working on problems that had previously gone untreated and giving the patient information to help manage and improve their health conditions.

Part of the ability to solve problems was due to listening to one another and considering different aspects of the case without dismissing what other team members had to say. Also, there was accountability within the team to remember each concern and address it.

> *Yesterday was just like the best, was just the best day as in the care you know…I think they're going to figure it out no matter what, with the way they worked together…They were talking to me, talking to each other and just relaying back and forth to each other... That's how I knew they were working together to get things figured out.* (Sara)

> *Um, they listened to what I had to say, then as a group, you know, when they were talking to one another, they took each other's, uh, response. Just didn't, you know, blow it away. That they considered everything, so I thought it was very good. To me it's a good way for something not to be forgotten about... You got a team in there, you know, different people, I don't know if I'm wording it correctly, but you have different people minds like that, you know. One thing's not gonna be forgotten, because the other one, and somebody else, is gonna remember.* (Carol)

> *There were two of them in there at the same time. The, um, the nurse and then the pharmacist or pharmacy student. And while I was talking to the nurse, the pharmacy*

> *student was going over all my chart and my past history of medication to see if maybe--I'm trying to word it the way she did--to see if maybe one of my medications was causing the my legs to hurt like they were or if maybe where I was on another medication just too long and that could be a side effect, you know, to make your legs hurt. So, but, and then, you know, they were talking to me and bouncing ideas off of each other. And at the same time, looking and seeing what was going on, so that was a biggie right there. And then when they got done, the nutritionist came in, but they were still in the room with us, so it was all three in the room with me.* (Tina)

In summary, in Subtheme III, patients described the phenomenon of TBICP as a powerful means of solving problems, through a collective approach utilizing multiple minds, professional opinions and the interactions of teamwork (collaboration).

Subtheme IV (Interprofessional Plan of Care): ***I felt more confident that it would work for me.***

Patients were active participants and observers as the team listened, explained, assessed, diagnosed, used references, and gave report to the preceptor. Participants saw team members and the preceptor come to agreement, or consensus, about a plan of care, which was created uniquely for each person. One participant described it as being "on the same page."

> *It was actually nice to be able to talk to a whole team instead of talking to one person and then, "well, we might need to do this," then they'll, a day or two later, then you actually get to talk to someone else, you know, like a nutritionist. The lady was there! You got it done at the same time and everybody on the team heard the same thing. You know, heard what you say. You don't have to say it over and over. It seems like everybody would be on the same page that way...* [At each different HCP office] *they got to read all*

> *over the charts, you've got to re-explain to them, and then they will have their own diagnosis or opinion on that. And sometimes they don't go together, but this time* [with the ICP team] *it seemed like it was a lot better because everybody was there, talking, you know, giving their own opinions at the same time.* (Tina)

In her interview, Tina describes how the team built an interprofessional plan through collaboration, as compared to her past experience of seeing individual specialists for a problem, which necessitated repeating herself, carrying information from one provider to the next, and resulted in receiving conflicting instructions on how to treat her condition. Seeing the team reach a consensus from different professional "perspectives" or "opinions" gave patients enhanced "confidence," both in the plan itself and in the patient's ability to follow the plan at home.

> *I didn't mind, you know, that you got a couple people and they agree. That makes you feel better.* (Cora)
>
> *I felt like all they* [former HCPs] *wanted was me to come in and they just look at me and they'll say, '*well what's the problem,*' and I tell them and that's it…And with them* [the ICP team]*…here she's gave me medicine that helped me and everything else and assured me... I'm doing what she told me to do, and I feel like I'm getting better... They addressed everything that was going wrong with me. And it seemed like they had a plan of action... they seemed like they were going to address the thing that's been bothering me absolutely for years. I had one doctor that I'd had for many years who didn't want to do nothing but cover up and give me pain medication. I don't want pain medication to cover it up. I want to fix it and this is what they seemed like they wanted to do.* (Cissy)

> *Well it did make me feel more confident when I left, because you know, there's more eyes to check to make sure everything was right, just assuming that the team talks with each other, you know, keeps each other accountable.* (Daniel)

Daniel brought up two kinds of accountability during his interview: 1) the accountability a team exerts on individual members, and 2) the accountability he would feel to the team and his goals, if they set goals together. For example, if given a future TBICP opportunity, Daniel would like the nutritionist to give him a diet and work on goals with him to help him reduce the weight he gained after quitting smoking. Several patients wished to have a team with whom they could plan and set individual goals to improve their nutrition, weight, or other lifestyle choices. Some mentioned that they would want to see a team anytime their health changed or after a new medication was prescribed.

> *You know, I know I'm not alone in this…The first thing you do when you get your prescription is throw the whole envelope and bag away and just take the pills ever how often it tells you to take them, so you don't really check into the side effects then.* (Daniel)

Like Daniel, many participants would add someone with expertise in an area of one or more of their concerns. Daniel wanted the team to continue to address medications, mental health, diet and to set goals with him (even though he experienced the sensation of "the crowd" which was uncomfortable at first). Many other participants mentioned that it would be nice in the future to have someone on the team to address musculoskeletal conditions.

To summarize Subtheme IV, the patient saw multiple professionals come together to agree upon a plan; team members discussed, explained, and answered questions with the patient. These experiences increased the patient's confidence in the plan, sometimes called assurance. Amada's experience best exemplifies this, "They were really nice…completely concerned…about me. He made me feel like…something was going to work this time…It felt a lot better, like I just felt like, *finally!* Ya know?" This, from a patient who first described apprehension, saying it was, "weird at first," and she was worried that she wouldn't understand "smart" people: "What are you saying? Like, I'm practically illiterate, don't talk like that." But she left feeling heard, feeling "comfortable…they weren't so stiff," and cared for by a team who "was worried about me." She gained a better understanding of her medicines and her conditions, and left the clinic with renewed hope and expectation expressed as confidence that the plan of care would "work this time."

Summary of Narrative Findings

As demonstrated in Table 4.8, and in the overarching theme, *two minds are better than one*, patients located value in the ICP team. They described the experience as patient-centered, comprehensive, thorough, and inclusive in *they listened to everything I had to say*. In the domain of inquiry, *let's go through the whole process,* they noticed the multiple perspectives of different HCPs, and appreciated the interpersonal communication skills and provider behaviors exhibited collectively by the team. Related to problem solving, in the supporting theme *there was minds coming together*, the team process was described in terms of discussing, debating, back and forth, and respectful communications of differences between team members. Patients noticed that the team looked up information and remembered to address everything they had been told by the patient. Regarding the creation of an interprofessional plan of care, *I felt more confident that it would work for me,* participants described a plan of action that was created *on the same page*, wherein the team members did not dismiss each other's professional opinions. Participants stated that they were given more options and that long-standing problems were not covered up, *nothing was swept under the rug*, and they *got down to the nitty gritty* and created a comprehensive plan of care tailored to the person's needs. Some patients expressed that they were uncomfortable with a team approach, and did not want it to become their main means of experiencing healthcare, but they still liked the interprofessional capacity of the team for some situations, like emergencies or exploring serious new conditions.

Integration of Findings

This study sought to explore how persons living with chronic conditions experience TBICP. The study addressed two sub-questions: 1) How do persons living with chronic conditions find value in the care delivered by an ICP team; and 2) Would persons receiving care recommend TBICP as a model? Because this was a mixed-methods study, data were available from quantitative and qualitative analyses. Triangulation of categorical data from the survey provided an excellent source of comparison to both the quantitative scores and the narrative thematic analysis. In fact, these findings on many constructs were nearly identical. The process of triangulating and integrating findings across results from 1) the Likert-style responses (quantitative), 2) the open-ended short answers (quantitative, categorical), and 3) the thematic analysis (qualitative) is demonstrated in Table 4.9. Finally, all findings were integrated in the below description and were considered as the basis for a model of TBICP.

Machine Thematic Analysis and Word Counts

NVivo Pro (QSR International Pty Ltd., 2017) proved inutile for identifying recurrent themes or phrases in surveys, interviews, or both. It was attempted after uploading eight interviews and again after uploading all 21 plus survey SAs. In its current version, NVivo Pro seems unable to identify similarities behind complex expressions. For example, using thematic analysis, NVivo identified the most prevalent theme as "Airplane," because the word was mentioned three times in one interview. Word counts were also completed in NVivo. Only after

Table 4.9 Integration of Quantitative and Qualitative Findings from Survey and Interview

	Survey	**Survey**	**Interview**
Finding	**Likert-style* (Quantitative)**	**Short Answer** (Quantitative)**	**Thematic Analysis** (Qualitative)**
The team understood my situation	Mode=7	Category: PCC Constructs= 31% *They understand my problems.*	Theme (PCC): *They listened to everything I had to say.* *They repeated back to me what I had explained…so I knew they had actually listened to what I had said.*
The team respected my ideas for my plan of care	Mode=7	Category: PCC Constructs=31% *They all listened to me and what I need.*	Theme (PCC): *They listened to everything I had to say.* *They stood and listened to me first and what I wanted.*
The team listened to me carefully	Mode=7	Category: PCC Constructs=31% *They were attentive and listened to me.*	Theme (PCC): *They listened to everything I had to say.*
The team gave me information in a way that I could understand	Mode=7	Category: PCC Constructs=31% *Able to understand from different approaches.*	Theme (PCC): *They listened to everything I had to say.* *They talked to me using language that I could understand.*
Having more minds and professions—interprofessionality-- is better		Category: Specialties, Combined Knowledge, Multiple Opinions, etc.=29% *Different areas of expertise.*	Overarching Theme and Core Concept: *Two minds are better than one.*
Wider continuum of knowledge, ideas, & professional opinions		Category: Specialties, Combined Knowledge, Multiple Opinions, etc.=29% *Each member of the team has a specific area of expertise.*	Themes: (ICP Problem-Solving) *There was minds coming together,* and (ICP Plan of Care) *You can get more opinions, and it's a bigger spectrum of people and their knowledge.*
Thorough questioning process		Category: Thorough and Comprehensive=13% *They may ask questions others didn't think of.*	Theme: (ICP Inquiry) *Let's go through the whole process.*
The team worked well together (collaborated)	Mode=7	Category: Teamwork & Collaboration=22% *Debate to make the best choice of, for healthcare.* *They worked together for a common good to help me.*	Theme: (ICP Problem-Solving) *There was minds coming together.* *Talking; bouncing ideas; discussing; worked together.*

Table 9. Continued

	Survey	**Survey**	**Interview**
Finding	**Likert-style* (Quantitative)**	**Short Answer** (Quantitative)**	**Thematic Analysis** (Qualitative)**
Patients liked seeing a unified interprofessional plan of care.		Category: Plan of Care, More Options & Information=18% *Seemed more thorough, got to the root of my problems.*	Theme: (ICP Plan of Care) *I felt more confident that it would work for me.*
Multiple team members were "overwhelming"	Mode=1	Category: Too Many People=10% *So many people.*	Discrepant case theme: *on the spot; crowded;* or *closed in*
Patients preferred uniprofessional HCP in primary care		<1% of responses *Need one person.*	Four interviewees expressed idea, but not to exclusion of ICP. *I get comfortable with one person.*
Participants received more information or in-depth explanations.		Category: Plan of Care, More Options & Information=18% Plan of Care with More Input/Options/Outcomes=11% *Got more input from a team.*	Themes: PCC and ICP Plan of Care *They…went into depth with even going over the medicines and everything with me.*
Patients prefer an ICP team-based approach for some concerns but not for everything	Mode=4	Category: Teams Acceptable for Some Conditions=21% Category: Teams are Preferable=6% *Two minds think better than one.* *More than one opinion.* *Not for everything, for somethings they can help.* *I can see the advantages of the team approach.* *I am comfortable with either or.*	Most would see a team again, with full range of preferences from some of the time to all of the time. Some would prefer TBICP only for some serious or emergency situations. *Theme: Two minds are better than one.* *In the future I would like to see a team so that I can just deal with my health and take care of myself the best that I can.*
Participants would see an ICP team again		Category: Did Not Dislike Anything: 78% >8 categories describe what respondents liked about TBICP Yes, inferred from majority of positive responses across all short-answer questions. (See Categorical Summaries in Tables 4.2-4.5 and raw data in Appendices G-I)	Yes, would see a team again. Especially for chronic conditions, complex problems, changes in medication, diagnoses, recommendations, goal setting, integrating mental health with physical, dietary planning, and health maintenance. Rotate team visits with uniprofessional HCPs. Not for simple, acute care. Not for personal or genitourinary concerns.

*Likert-scale question from 1 to 7, where 1=strongly disagree and 7=strongly agree.

running a combined search of all interview transcripts and all survey open-ended SAs did word counts prove somewhat useful in confirmation of open thematic analyses. Choosing judiciously among the list of most frequently used words (to exclude those used by the interviewer, pronouns, and connectors such as “and”) revealed that words in the 10% to 28% range were most likely to reflect thematic findings, such as *pharmacist, hear, concerns, listened, medicines, helped, nutrition, listen, concerned,* and many others listed with percentages in Appendix L.

Quantitative and Qualitative Constructs Related to PCC

Quantitative survey Likert-scale, survey open-ended, and interview data were highly concordant in findings related to PCC constructs and how the patient felt they were treated by TBICP. On the survey, patients were presented with Likert-scale questions asking them to evaluate the team’s behaviors using constructs relative to PCC as follows: the team “seemed to understand my situation,” “listened carefully to me,” “gave me information about my health in a way that I could understand,” and “respected my ideas for my plan of care.” The mode for each of the above constructs was a seven, corresponding with “strongly agree.” In the interviews, patients spoke to all four of the above constructs: patients felt that they were listened to very attentively, that they were treated with kindness and genuine concern, that the team gave them ample time, and that they were spoken to using language that they could understand. Patients commented that the team took the time to thoroughly understand their situations. Many additional constructs related to PCC were given in the survey categorical short answers and the interviews, all of which were found to be concordant by triangulation.

The survey asked participants the extent to which they were comfortable working simultaneously with multiple members using the negative statement, “it was overwhelming seeing multiple team members at once.” Participants responded with “strongly disagree,” (Mo=1), that it was not overwhelming. Corresponding data from the narrative interviews further explicated how patients responded to working with a multiprofessional team rather than a uniprofessional HCP: responses to the interview question, “what was it like to see an ICP team and how did you feel,” were on the whole, very positive. As described above, participants received extra attention, thoroughness, in-depth explorations of their concerns and expressed that they had a positive experience with the ICP team. Discordant cases revealed that a few patients did not like working with so many people, but most did find some value in the interprofessionality of the approach. The quantitative and qualitative data were concordant regarding the concept of being cared for by multiple team members.

Parallel Findings between Survey Results and Interview Themes

On both the survey and the interview, participants were asked what they disliked about the team-based ICP approach. Of note, most of the dislikes expressed, both on the survey and during the interviews, regarded the size or number of team members, rather than the interprofessional approach; some simply wanted to work with one professional and to have an ongoing relationship with that professional. On the survey, responses clustered under the themes of *so many people, takes more time,* and *information overload*. However, it should be noted that negative responses comprised 23% (n=91), whereas an additional 77% of respondents took the time to write a positive statement even though a negative was requested and they had already had the opportunity in the previous question to write what they liked most. In the interviews, the idea of information overload was not encountered. Two interview participants felt “crowded” or “closed-in” the examination room with a group of more than one or two HCPs. These same respondents did find value in the interprofessional collaboration and would see a team again. Some patients expressed a strong preference for having a “one-on-one relationship” with one

HCP, and these patients preferred to continue with a uniprofessional HCP. They did not want to see other types of HCPs unless it was for an emergency, or a referral to a specialist. The survey theme *takes more time* was repeated; however, as on the survey, interview respondents found both that it took *less time* to see a team, was *more efficient,* or seemed to take *more time but worth it*. Phenomenology treats the concept of time in narratives (as told by the person who experienced a phenomenon) as a highly subjective experience (Sohn et al., 2017). In summary, some people responded uncomfortably to having a multi-person team, and there were a range of responses to the experience of time. The majority of patients on both the survey and the interview spoke positively about the team, even when asked to reflect on what they least liked.

How did participants describe the quality of care they received? A few responses from the survey to "what did you like best about the team-based approach," are given below.

> *They were very respectful and welcoming.*
>
> *The team approach is preferable. The different individuals "bounce" ideas off of one another to come up with a better treatment plan.*
>
> *Lots of minds going one direction.*
>
> *Different people have different ideas and approaches and one may work better than another one for the patient.*
>
> *They worked well together to figure out a solution for me.*
>
> *They covered separate issues and each had good questions.*
>
> *Wide base of knowledge and care.*
>
> *Seemed more thorough.*
>
> *Got to the root of my problems.*
>
> *Able to understand from different approaches.*

The above short responses to survey questions are mirrored and echoed throughout the narrative thematic analysis of findings. The survey responses also strongly captured constructs related to PCC and a clear appreciation for multiple points of view, more opinions, and more options. The same responses, but in much more depth and description (in juxtaposition to past experiences of healthcare), arose from the interviews. These were captured by the overarching theme, *two minds are better than one.* Some of them shared that the team worked together to teach them something important about the medicines they were taking, to give them more specific dietary information, and to resolve a long-standing concern that had not been fully heard or investigated in the past. Subthemes also reflect the quality of care in *they listened to everything I had to say*, which captures the PCC approach; *let's go through the whole process*, which describes thorough and deep inquiry; *there was minds coming together*, which describes collaborative actions to problem solve and diagnose; and, *I felt more confident that it would work for me,* which represents confidence resulting from multiple approaches and consensus in planning the patient's individual care plan. The quantitative and qualitative data are highly congruent. Patients experienced team-based ICP as highly patient-centered. The themes, *They listened to everything I had to say,* and *Let's go through the whole process,* provided rich, contextual details of the patient's experience and insight into the quantitative outcomes. From the above integration of data, it became clear that although this was their first exposure to TBICP, patients located value in the care received.

Teamwork.

Survey respondents "strongly agreed" (Mo=7) that the team worked well together. This was a recurrent finding in survey short answer categories. The interviews offered more context and description of teamwork. Both the survey and the interview found that participants liked seeing the process of the team at work in front of them and provided examples in very positive terms. Survey and interview results and findings were highly concordant. For example, one survey respondent wrote, “they worked together and didn’t overpower one another.”

Patients Recommend TBICP as Part of Primary Care

To what extent was ICP accepted as a viable model of care? The survey reflects a broad range of responses on when patients would want to see a team, from every visit, to sometimes, to those who preferred a one-on-one, care as usual model. It was clear from the interview responses that team-based care was accepted as some form of care, and one that many “would like to have again.” One participant’s question stood out for its poignancy.

> *But can I ask why is [University] and [FQHC] going together? Are they trying to make a better place for every, I mean a better experience for everyone? Is it gonna always be like this, or is it, uh, just an experimental thing?* (Ann)

The categorical survey short answers indicated acceptance as well. However, the quantitative survey results for patient preference regarding TBICP were equivocal (See Chapter Five for discussion of limitations of the survey questions). When asked to write an explanation regarding their preferences as part of the survey, patients indicated that there were many times when they would see an ICP team. They preferred not to see an ICP team for private or genitourinary concerns. The narrative data demonstrated that respondents were very positive about how well the team had met their expectations. Most participants indicated that they would find value in seeing an ICP team again as part of their primary care for a wide variety of purposes. At either end of the continuum were those who wanted to see a team at every primary care office visit, and three out of 21 interviewed preferred *care as usual*, but would see a team for emergencies or changes in their healthcare status such as a new diagnosis. The majority discussed integrating an ICP team into their primary care routine, as part of *care as usual*, wherein they would see a uniprofessional primary care provider on some visits, and the team on others. Taken together, the integrated findings of survey short answers and narrative thematic analysis demonstrate the patients would recommend and seek TBICP again. From the thematic findings of the interview, *two minds are better than one, let's go through the whole process (*and subtheme *they listened to everything I had to say), there was minds coming together,* and *I felt more confident that it would work for me,* patients supported team-based ICP as a viable new model of care.

Towards the Construction of a Grounded Theory of TBICP

Based upon the patient's perspective, a grounded theory of TBICP was developed from themes and categories and grounded in raw data from surveys and interviews. When a patient collaborates with an ICP team that has trained in both PCC and a model of teamwork such as TeamSTEPPS (Agency for Healthcare Research and Quality, 2015), the resulting ICP team can achieve an enhanced ability to listen, investigate, inquire, examine, and collaborate. The patient feels cared for both as a *person* and as a *patient*. As a result, the patient can benefit from the expertise of the team. The ICP team includes the patient in their practice such that patient-to-team and intra-team collaboration occur. Because of this transparency and participation in the ICP Inquiry, ICP Problem Solving, and ICP Consensus, the patient has a full, embodied sense of what is happening, which increases comfort and acceptance of interactions. Instead of occurring 'behind the scenes' as is so often described in the literature, TBICP is instead enacted with the patient center stage, such that the care is truly patient-centered. With the patient front and center, the person experiences the phenomenon of the interprofessionality of the ICP team, its processes, and resulting plan of care. As the result of taking part in interprofessional team activities, the patient experiences improvements in the following: 1) Receiving caring, respectful and attentive care, 2) Being heard and participating in the interprofessional inquiry and investigation of the patient's concerns, 3) Witnessing powerful problem solving and diagnostic capability of an interprofessional collaboration, and 4) Participating in the co-creation of a comprehensive interprofessional plan of care. These interactions and outcomes increase patient confidence in the team-based processes and the interprofessional plan of care. The TBICP Model leaves room for linkages to other important outcomes through future research. These include, but are not limited to, improvements in the following domains: patient-team member relationship; patient-team communication; patient-team goal setting; self-efficacy; adherence to the plan of care; health-seeking behaviors; use of healthcare services; and biometric outcomes. The domains and contexts of the theory are demonstrated in Figure 4.12. A working model can be seen in Figure 4.13.

Conclusion

This chapter presents the results and analyses of the survey and interview, which were analyzed separately as quantitative and qualitative data. For the survey data, Likert-scale and other quantitative scores are presented using descriptive statistics and demographic group comparisons by analytical statistics. Survey short, open-ended answers are described by category and frequency. Qualitative, narrative data from the semi-structured interviews is presented by one overarching theme and four supporting themes. These mixed methods are strengthened by triangulation all data sources, which are presented as integrated findings. Finally, a model of TBICP, derived inductively from constant comparisons, is built around the emerging core concept, *Two minds are better than one,* and its interrelated themes: 1) *They listened to everything I had to say, 2. Let's go through the whole process, 3. There was minds coming together, and 4. It made me feel more confident that the plan of care would work for me.* Themes

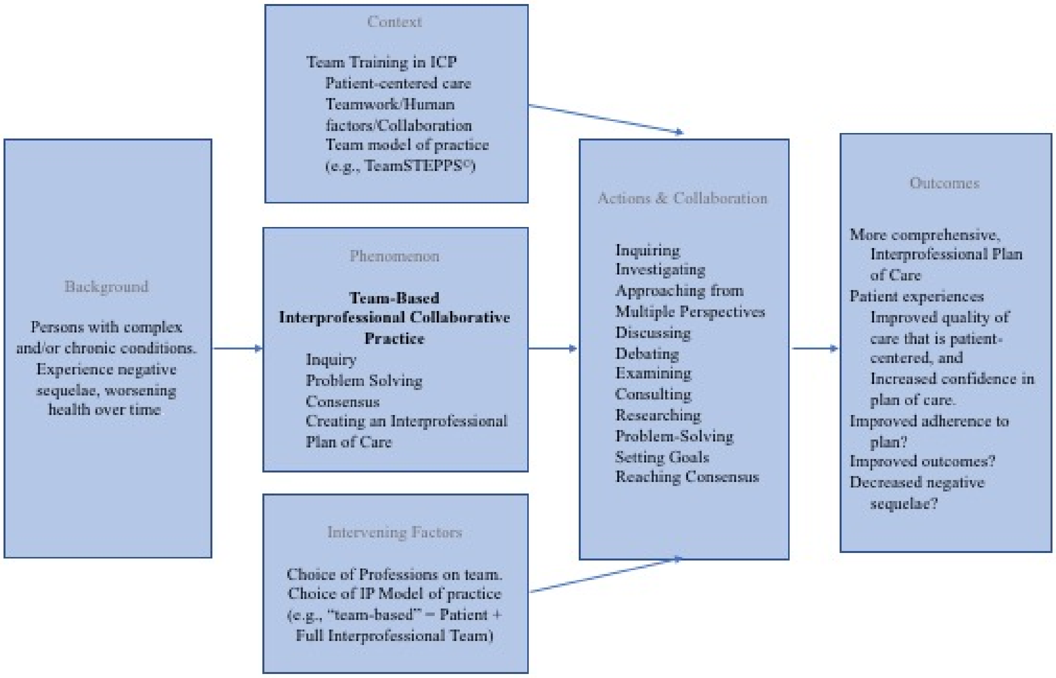


Figure 4.12. Construction of a Grounded Theory of Team-Based ICP

Figure 4.13. Model of Team-Based Interprofessional Collaborative Practice

are identified as part of a process of interprofessional activities, and placed into categories, which are grounded in the raw data to ensure truthfulness and generalized validity, but also abstracted for generalization to other populations and applications of ICP. These categories of interrelated ICP activities include 1) PCC Behaviors, 2) ICP Inquiry, 3) ICP Problem-Solving, and 4) ICP Consensus on a Plan of Care.

Chapter Five: Discussion

Introduction

This chapter recalls the purpose of this study, the research questions, and the methodological approach. The major findings of the study are summarized, then discussed as an integrated whole--the result of triangulation and integration of the quantitative and qualitative data. The implications for theory, research, and practice are discussed. The limitations of the study are described, with recommendations for strengthening the approach in similar or related studies. Conclusions address the contributions this study made towards an improved understanding of the research and practice of team-based ICP.

This study explored the patient experience of team-based ICP from the perspective of the persons for whom this model is intended, persons living with complex or chronic conditions. ICP has been described as having the potential to enhance the quality of care and improve health-related outcomes in this population. However, as discussed in the review of the literature (Chapter Two), studies of people who have experienced care via ICP are underrepresented in the literature. Most investigations to date have centered on self-reported inventories of ICP skill acquisition in clinician-learners (following IPE) or qualitative explorations of professionals' experiences of practicing interprofessionally (whether a pre-professional or experienced HCP). Patients' experiences can inform and improve the development, delivery, and ultimately the efficacy, of ICP. This study explored the patient's lived experience and valuation of the phenomenon of team-based ICP. Two research questions were asked as follows:

(R1): How does the patient find value in an experience of team-based ICP?

(R2): Would patients be willing to work with an ICP team again?

To answer these questions, patients with one or more chronic conditions who had experienced team-based ICP during a primary care office visit at to their FQHC were invited to participate in a research study. Participation involved responding to a survey, an interview, or both. A concurrent mixed methods approach was adopted to obtain both quantitative and qualitative data. These were analyzed separately, then findings from both sources were integrated to explore the patient's experience and valuation of an ICP primary care visit and to make recommendations.

This study found that patients value the team-based experience of ICP, as exemplified by the overarching theme, *Two minds are better than one.* However, some patients prefer one uniprofessional HCP, under most, but not all, circumstances. Open, thematic analysis identified the overarching theme as *Two minds are better than one*, which is further supported by the following themes: *1) They listened to everything I had to say;* 2) *Let's go through the whole process; 3) There was minds coming together;* and 4) *I was more confident that it would work for me.* The central and supporting themes were triangulated by survey data, interview data, and field notes to confirm reliability and truthfulness. Together the themes were categorized into the following interconnected scheme: 1) Interpersonal Behaviors, 2) Interprofessional Inquiry, 3) Interprofessional Problem-solving, and 4) Interprofessional Consensus on a Plan of Care. The subtheme, *They listened to everything I had to say,* categorized as Interpersonal Behaviors, permeated all other themes and categories as evidenced patients' descriptions of the ICP team as follows: nice, kind, caring, concerned and interested, respectful, listening attentively, nonjudgmental, and using understandable language. The following three categories are based upon subthemes two through four and pertain to patient and team interactions: 2) Interprofessional Inquiry (thorough inquiry; multiple perspectives; combined broad spectrum of knowledge of the team); 3) Interprofessional Problem-solving (sharing multiple professional ideas and opinions; debate and discussion amongst team members; the process of problem-solving; collaboration among team members; discussions between the patient and the team); and 4) Interprofessional Consensus on a Plan of Care (detailed explanations; variety of options for the plan of care; and agreement by multiple professions on an ICP plan of care that was individualized for the patient). Patients explained that the team was attentive to details, thoroughly explored each issue, and agreed upon a plan of care achieved through a group processing of information. These attributes of the ICP team process resulted in an outcome--a plan of care that patients believed was 1) Interprofessional and comprehensive, 2) more likely to be correct and 3) efficacious. Patients characterized the plan of care as an improvement over *care as usual*, which they attributed to having multiple minds, persons, and professions contributing, collaborating, and ultimately reaching agreement on an ICP plan of care tailored personally to the patient. To the participants, team-based ICP provided *better* care and enhanced the patient's confidence in the plan of care. Patients would like to have the option of working with an ICP team again during their primary care office appointments.

Interpretation of the Findings

The Core Concept: *Two minds are Better than One*

The overarching theme, *Two minds are better than one*, embodies improvements to the patient experience as expressed through the supporting themes and categories: 1) Better interpersonal or PCC experiences through ICP, and 2) More thorough investigation through questioning from multiple professional perspectives; 3) Powerful problem-solving capacity with interprofessional collaboration to investigate, research, deliberate, propose ideas, and 4) Increased confidence in a plan of care reached by consensus agreement of an interprofessional team. *Two minds are better than one* is highly similar to Shaw's central theme, *More than one dollop of cortex.* The seven patients Shaw interviewed all agreed "two heads is [sic] better than one" (p. 232). Shaw (2008) arrived at similar conclusions, that patients value positive relationships, communication and coordination, and collective knowledge. Shaw organized thematic findings into, "The Three 'A's': Affability, Accessibility and Ability" (p.232). Shaw studied (2008), a different model of ICP, whereby interprofessional care occurs sequentially. Patients see one HCP at one visit and another professional at the next. Team meetings occur monthly between professionals and without the patients. Although the study included participants who had experienced ICP longitudinally, the extent of patients' exposure to ICP was not disclosed by number of visits or length of time. Since all of the patients in Shaw's study had been receiving interprofessional care for some period, it is assumed that they all consented to the model of care. One clinician whom Shaw interviewed stated that some patients did not want interprofessional care, preferring instead to have one relationship with a uniprofessional HCP. Therefore, Shaw's study of patients with a longitudinal ICP experience did not include any patients who preferred uniprofessional care. By contrast, the present study included participants who described a similar preference for one relationship with one HCP, who nevertheless found some potential value for ICP, but not for their routine care.

PCC Behaviors: *They Listened to Everything I Had to Say.*

The theme, *They listened to everything I had to say*, encompasses the patient's experience of positive PCC attitudes and behaviors during TBICP. This finding is significant in light of the Triple Aim, which includes improving the patient's experience of care (Institute for Healthcare Improvement, 2009). This study demonstrates that there is something about team-based ICP, which provides patients with an improved experience of PCC. Patients discussed positive behaviors by team members related to four out of eight concepts identified by the Picker Institute as essential to PCC (see Table 1.1 for a complete list) (M. Gerteis, 1999). These four include:

> *Respect for patients' values, preferences and expressed needs,*
>
> *Coordination and integration of care,*
>
> *Information, communication and education, and*
>
> *Emotional support and alleviation of fear and anxiety.*

Participants in this study made it clear that their experience of care with the ICP team was excellent in the domains of interpersonal attitudes and behaviors. This finding prompts the question, *What is it about the ICP team-based process that promotes improved PCC*? In this study, the phenomenon of ICP was provided by a team that had focused on PCC during ICP training. S. N. Shaw (2008) found increased PCC outcomes even when no ICP training was described and where the team practiced a sequential rather than synchronous model of interprofessional care, holding team meetings without the patient. There may be something about an interprofessional care team or teamwork itself that promotes PCC. Patients in the present study often punctuated descriptions of their experiences to emphasize the high level of PCC through phrases such as, they *actually* listened, and they *even* checked.

> *I think they did a great job. Um, shoot, she listened to my lungs very well, and I told her the issue I was having with my ears, and she actually looked and checked that out too. She didn't ignore what I was telling her.* (Cora)

The above patient gives a concrete example of SDM, which is part of PCC. Synchronous *team-based* care was practiced in the present study, and patients were able to experience team behaviors and participate in most aspects of their care, except when the ICP teams collaborated on the plan of care with faculty and the FNP preceptor. Having the patient attend team meetings (a similar idea to developing a plan of care during TBICP) was also recommended by J. J. J. van Dongen, M. de Wit, et al. (2017); J. J. J. van Dongen, I. G. J. Habets, et al. (2017) after observing that team meetings and goal-setting were provider-centered rather than patient-centered when a patient was not present.

Improving PCC through ICP is one of the strongest findings in the present study. Participants reported actions taken by the team related to SDM, such as working to fully comprehend the person's needs and priorities before taking actions or making decisions. While patients were not directly asked whether they felt that they were also members of the team, their narratives make clear that their concerns were heard and that they were treated respectfully and consulted throughout the encounter. The idea of improving the patient's experience of PCC through ICP merits further exploration, which is discussed in Implications for Theory and Research, later in this chapter.

ICP Inquiry*: Let's Go through the Whole Process*

Each person in this study was attended to by a team of two to four persons representing two to four professions, who listened attentively, asked questions from different perspectives, debated and discussed the possible etiologies, the facts and conditions the patient described, conducted the physical exam, ordered diagnostic tests, researched etiologies, and gave report to the preceptor and faculty. Patients described a thoroughness and depth to the questions and the process as multiple 'minds, brains, eyes, ears, opinions, and perspectives.' *Let's go through the whole process,* describes how the team inquired into each patient's concerns in a thorough, stepwise fashion, without being led by a computer program, or jumping from topic to topic. Patients understood and appreciated that inquiry from each team member was different, because each member embodied a profession and went into subjects in more depth than one person could do alone. Hearing, seeing, and being physically in the midst of this process gave transparency to it that patients appreciated.

This theme is very closely tied to the previous theme, *They listened to everything I had to say*. Several patients described a sense of accountability built into the inquiry, whereby they felt assured of being heard, of having someone remember the concern and be compelled to take action on it. However, it wasn't just accountability; it was also the interprofessionality of the inquiry that patients appreciated. To see their concern approached from multiple perspectives was interesting, new, and many said they learned something from it. One patient felt motivated by the depth of explanations and said she would go home and do more research herself. Others relayed that longstanding issues that were previously overlooked were addressed through ICP. The strongest signal from this category is that team-based ICP approaches inquiry from multiple perspectives, builds in accountability to a thorough process, and demonstrates the process of discovery to the patient. The patient may walk away feeling heard, possessing new knowledge, and having literally seen how the team considered a multifactorial concern.

This is important because patient safety is about getting the facts right; about hearing the whole story; about putting it together accurately and in the proper order -- understanding the facts, concerns, and patterns in data. Diagnoses is a complex process, and patients often do not feel heard or understood, as evidenced by many in this study who had never before spoken to a pharmacist about their medicines, learned how to take them, or investigated the possibility that medication they were taking was causing adverse effects. Similar findings regarding diet and nutrition were made and discussed regarding health outcomes. Patients discussed the ideas of accuracy and accountability as they applied to the ICP team remembering and taking action on all their concerns. They participated in a transparent process that they described as a more thorough and reassuring experience. "Finally!" Amanda said about seeing the ICP team:

> *He made me feel like…something was going to work this time. I've gone like four times in the last two weeks because my thyroid swelled. It* [TBICP*] felt a lot better. Like I just felt like, 'finally! Ya know?!' You know how like when you call a telemarketer and you can't understand…and then you finally get a…person and you can understand what they're saying. I felt relieved…I feel like something's actually going to happen now.* (Amanda)

The above quotation demonstrates how the team combined a PCC approach with interprofessional inquiry. Importantly, the patient felt heard and understood, she understood the team, and she saw that they would next take action. The patient saw the process of inquiry unfolding to her benefit. To place this finding into context, Amanda's PCP of several years had recently left the FQHC. Consequently, Amanda felt the loss of that relationship and continuity of care, as was also voiced by other patients at both FQHCs in the study. Despite this loss, she successfully obtained appointments at her FQHC four times seeking care for the same problem from her newly assigned PCP. While the loss of PCPs is a common problem to underserved areas and community health centers such as FQHCs (National Association of Community Health Centers, 2016), this did not seem to be the primary problem. Rather, the problem may be related to a need for better listening skills among HCPs, as is reinforced in high-performance team models such as TeamSTEPPS (Agency for Healthcare Research and Quality, 2015). In addition, there is the bigger question of whether uniprofessional HCPs, working within the current model of *care as usual* (e.g., seeing four patients per hour), can adequately address the concerns of complex patients. Amanda's problem may "finally" have been addressed as a result of the problem-solving capacity of interprofessional collaboration to address complex problems.

ICP Problem-Solving: *There Was Minds Coming Together*

This theme describes how the ICP team shared information and reached consensus on diagnoses, goal setting, and treatment patterns. Patients described a process including debating and questioning each other congenially, with the patient present in the same room, which is captured by the theme, *There was minds coming together.* Respondents liked this aspect of ICP team-based care and the transparency of the process. Participants described how the team explored different etiologies, tests, diagnoses, and possible treatments together and took turns asking and answering questions on the same topic amongst each other and with the patient, but from different professional perspectives. In short answers and narratives participants described satisfaction with the way the team worked on their healthcare concerns, such as how the ICP team addressed long-standing and previously unresolved/unidentified symptoms; talked with them about the proper administration of a medication; identified medication-induced side effects; refined a diet to reduce symptoms or attain better outcomes; and many more examples. Participants remarked on the knowledge held by the team and the thoroughness of both inquiry and problem solving for each individual's unique situation. Ultimately as the team worked, the patients saw "more options" emerge for their healthcare concerns. This is an important finding, because it describes how one model of ICP found new options for patients at risk for adverse outcomes as a result of chronic, and in many cases, multiple chronic conditions. In 2015, the IOM published a model demonstrating where IPE/ICP research findings are robust versus where the gaps lie. The present study begins to answer one of the gaps identified by the IOM: how does ICP affect health outcomes? This study offers evidence that patients found more options in TBICP to address their concerns. This outcome provides foundational evidence informing the further exploration of fundamental research questions: is ICP positively correlated with improved health outcomes, and if so, how does ICP achieve increased efficacy?

ICP Consensus on a Plan of Care*: I Was More Confident that It Would Work for Me*

The theme *I felt more confident that it would work for me* demonstrates that the patient can see utility and value in an ICP experience. The theme provides preliminary evidence that ICP outcomes can provide an improved patient experience of care vis-à-vis the Triple Aim (Berwick et al., 2008), towards improving the healthcare of populations.

Participants said they felt more confident in the plan of care developed through ICP and that the team had addressed everything they needed or wanted at the time of the appointment.

> *They definitely went, well, exceeded my expectations in trying to figure out everything that was going on and went into depth with even going over the medications and everything with me…I really liked how they were able to come up with the best care plan…The way that they had different professional opinions and were able to agree on what they felt would be the best for me…It definitely made me a little bit more, I guess you could say, confident that it would work for me, you know.* (Carly)

The previous themes build up to this one. After being heard, seeing their concerns investigated, and witnessing the interprofessional formulation of a plan of care, patients felt more confident. This finding may be stronger due to the fact that while neither the survey nor the interview directly asked patients about the plan of care, the experience of receiving an ICP plan of care and feeling more confident about it figured centrally to patients. They said they received more options, more in-depth explanations, more perspectives, and more detailed information on topics related to medicines, diet, lifestyle, and etiologies of their conditions. They also felt that the plan and explanations were more accurate, because it was created and explained by "more ears listening and more accurate account of what’s going on, you know,” (Daniel), each with expertise from a different profession.

The overarching goal in utilizing ICP for patients with chronic conditions is to improve health outcomes. Zorek et al. (2015) demonstrated that ICP care delivered at a university interprofessional teaching clinic in an underserved urban population was associated with an increase in utilization of preventative care services among ICP patients compared to a group of 68 patients who had not seen an ICP team. Adding a qualitative approach would be helpful in elucidating the factors in ICP that made patients more likely to access preventative care services. Did patients in Zorek et al. (2015) also experience increased confidence in the recommendations of an ICP plan of care, similar to the findings in this study? What other factors influenced the decision to utilize preventative care services? Additional studies are needed. What the present study contributes is qualitative evidence that patients’ “felt more confident” in the efficacy of the ICP plan of care.

Finding value in ICP: Would Patients Experience It Again?

Patients valued many aspects of interprofessional care (as discussed below in the main and subthemes) and reacted positively to working with a team of two or more professionals. During the interview, patients described their ICP experiences in positive terms, which were grounded by comparing the new ICP team-based experience to a previous, and often negative, past experience with one professional practicing uniprofessionally. Based on their positive experiences with the ICP team, nearly all participants expressed a desire to have access to team-based ICP in some form in the future—some at every healthcare visit or intermittently.

Additionally, participants in this study were positive about student learners. Even those preferring a one-on-one relationship with a single professional or “doctor,” would see a student learner or learners again, although they did not want ICP integrated into their routine healthcare visits.

Implications for Theory and Research

The field of ICP is in the early stages of development as a new model of care, and as such requires descriptive studies such as this one to form the basis for more focused studies. This section discusses the contributions this study makes to theory and research and places it in the context of other studies addressing the patient experience of ICP in primary care settings.

This study demonstrates that patients with chronic conditions in two rural FQHCs in Appalachia valued and accepted ICP as a viable model of care for their needs. It offers evidence that patients found the particular practice model, *team-based* ICP, to have delivered particularly positive experiences of care along the dimensions of PCC, inquiry, investigation, problem solving, and reaching agreement on a plan of care. Patients' needs were addressed comprehensively, from multiple professional approaches, and this increased their confidence in the plan of care.

The present study is the first mixed methods study of ICP teams in primary care settings. Several other studies have investigated quantitative or qualitative aspects of patient satisfaction, patient experience, or outcomes related to the practice of ICP in various primary care settings (see Chapter Two) (Carr et al., 2012; Grohmann, Espin, & Gucciardi, 2017; Hepworth, Askew, Jackson, & Russell, 2013; Lawrence et al., 2015; Nasmith et al., 2004; Richards et al., 2013; S. N. Shaw, 2008; J. J. J. van Dongen, I. G. J. Habets, et al., 2017; Zorek et al., 2015). However, to date, the present study is the first to combine qualitative and quantitative methods to explore the patient's experience of ICP in primary care, which was delivered by teams that were trained in

ICP, PCC, and a model of team behaviors. One of the more important questions emerging from these studies is outlined as follows:

To what extent does TBICP influence health-related outcomes?

1. *To what extent does TBICP influence patient attitudes, self-management, and health-seeking behaviors?*
2. *To what extent does TBICP influence professional behaviors and quality of care to produce improvement in the following processes or phenomena?*
    - *a. PCC*
    - *b. inquiry*
    - *c. problem solving*
    - *d. co-creating a plan of care*

Each of the above TBICP activities relies upon constructs which could also be explored, such as communication, collaboration, coordination of care, SDM, and consensus-building, just to name a few. Equally important to explore are what the AHRQ (2015) refers to as the "teachable, learnable skills" of TeamSTEPPS$^{©}$: leadership, communication, mutual support, and situation monitoring—all of which are evidence-based activities known to improve team outcomes in safety and quality. Given their proven efficacy, the combination of their application together with ICP and PCC could have significant influence on TBICP outcomes in primary care. Each team-based skill relies upon a shared mental model of performing that skill and leadership that relies more upon designation of roles and responsibilities rather than hierarchical power. Each of the above constructs could be investigated further as applied to achieving improvements in TBICP, patient experience, and health-related outcomes.

How ICP Is Configured

Leadership.

How interprofessional collaboration is practiced may influence outcomes, just as which professions are placed on a team should influence outcomes. In the literature, many teams met without the patient present and practiced ICP without any formal training in ICP or teamwork. Similar to the present study, S. N. Shaw (2008) explored the patient experience of ICP in persons with chronic conditions, but care occurred through a series of uniprofessional meetings with members of the patient's ICP team. The team met monthly without the patient. Both the present study and Shaw found that patients experienced a high degree of PCC and shared nearly identical themes, *Two minds are better than one* and *More than one dollop of cortex,* respectively. Shaw identified *family physicians as interprofessional health team leaders*, but a similar finding concerning team leadership was not found in the present study. This difference may be attributable to the fact that family practice clinicians in this study, FNPs, were present during team interactions with the patient, whereas in Shaw (2008), patients met with different professionals in a sequential, uniprofessional manner on during different days, interspersing meetings with the primary care physician. In addition, patients were not present when the full ICP team met to discuss cases. Regarding leadership, the present study participants did not mention the topic of leadership. About healthcare in general, a few patients mentioned that they would like access to a physician for specific needs and that it was difficult to gain access to a physician where they live. Several patients voiced concerns about the frequent loss of healthcare providers (FNPs and PAs) in their FQHCs and the consequent loss of continuity of knowledge of them as persons and their serious health conditions. However, these concerns were related to uniprofessional *care as usual*. In summary, leadership by physicians was identified in Shaw

(2008), when patients met sequentially over time with the physician and other HCPs. Leadership was not a theme in the present study, where patients met with the ICP team, including all professionals working on their case, simultaneously.

Coordination of Care.

In Shaw's study, patients emphasized a lingering concern about the coordination of care among team members, even though one of the findings was that coordination of care was improved through ICP. By contrast, in the present study, a number of statements were made about how well the team members worked together and communicated in a nonhierarchical fashion, as evidenced by phrases such as "they didn't overpower each other," "bounced ideas off each other," and examples of shared questioning, debating, discussing, and ultimately getting "on the same page." One patient described how the team took the time to call her pharmacy to coordinate care during her appointment. Perhaps communication and coordination of care aren't usually visible to the patient who does not meet with the team. It is also possible that intra-professional communication about coordination of care may not happen to the fullest extent possible without the patient present and without specific team training to open up multidirectional, non-hierarchical communication pathways between all team members, such as is taught in TeamSTEPPS (Agency for Healthcare Research and Quality, 2015). TeamSTEPPS teaches team skills to improve safety and patient outcomes in the domains of leadership (roles and responsibilities), communication (listening and responding through closed loops), mutual support (sharing duties, asking and receiving help), and situation monitoring (progress and safe progression towards a goal) (Agency for Healthcare Research and Quality, 2015). Thus, coordination of care may be perceived and practiced differently, depending on the relative exposure of the patient to team meetings, and presence or absence of a shared mental model of team behaviors.

J.J.J. van Dongen et al. (2017) explored patient participation in ICP team meetings and found that most patients appreciated being included, while some were uncomfortable with the experience. A strong finding in their study was that patients and clinicians all agreed that all professionals contributing significantly to the patient's care should attend team meetings to participate in goal setting with the patient. The present study offers insight in the development of theory and research using a different model, TBICP, wherein team members work together with the patient throughout the entirety of a primary care visit.

Further exploration would be necessary to learn more about 1) patients' perceptions of leadership roles among ICP professionals and 2) how the presence or absence of a PCP (physician, FNP, or PA) during meetings with the patient, may affect concerns about leadership and continuity of care on ICP teams. Were Shaw's teams more hierarchically organized around physician leadership? How do hierarchically structured teams compare in outcomes to teams practicing shared leadership? When patients, such as those in Shaw's study, do not attend team meetings, do they experience a lesser degree of certainty about coordination of care? How does team configuration of practice affect patient perception, patient experience, and health-related outcomes? How do different styles of team leadership and power structure affect patient perception of leadership and coordination of care? Several different studies would be required to address these questions.

Potential Effects of Training.

The present study offers an example of patients' experiences with an ICP team of students and faculty who were trained in ICP and a team model, and in this study, patients identified many attributes of TBICP constituting what patients described as improvements in the experience and quality of care. Lawrence et al. (2015) practiced a similar model of ICP, but without any training in ICP or teamwork. Lawrence et al. measured patient satisfaction with ICP in an urban, student-run free clinic (n=80) in Cleveland, Ohio, and found high patient satisfaction, but no statistical difference on 28 Likert-scale items compared to patient satisfaction in a similar free clinic (n=40) run by professionals practicing uniprofessional care. ICP care scored lower on the protection of personal information and amount of time it took to complete an appointment. Lawrence et al., concluded that the student-run free ICP clinic delivered care comparably to a similar clinic practicing *care as usual* by licensed HCPs and postulated that perhaps patients saw so many HCPs involved as being "superfluous" (p. 449). A single, discrepant finding in the present study may support that finding and would merit further exploration: one patient who encountered an ICP team of new clinical students, after being spoken to by only one of them, said he had not experienced a team. It may be significant that student HCPs in the Ohio study (Lawrence et al., 2015) were not trained in IPE, ICP or teamwork. Lamb et al. (2010) identified seven necessary competencies for health professionals working interprofessionally in "Designing Better Healthcare Environments." Among them were included education and training in "interprofessional science, teamwork, [and] problem solving" (p. 425).

Additionally, a qualitative approach in Lawrence et al. might have discovered more about how patients experienced ICP and patient satisfaction vis-à-vis ICP if they had been interviewed or asked some open-ended questions about ICP as part of the survey. In the study, they were asked to quantitatively score on a Likert-scale an individual's professional behaviors, access to care, and timeliness similar to any patient satisfaction survey. It may be that quantitative surveys alone, as currently constructed, are not capable of detecting differences in patient satisfaction between ICP and uniprofessional care without rewriting and validating them for use with interprofessional teams.

How ICP is Conceptualized

Participants found that the IPC Team addressed problems that had previously remained unidentified or ignored during solo HCP encounters. Participants described how the IPC team listened thoroughly and began to address these problems. This important finding demonstrates an improvement in the quality and safety of care, as well as an improvement in patients' experiences. Both of these findings relate to the Triple Aim (Berwick et al., 2008) including improving the quality of care and the patient experience of care. These findings raise important questions related to the conceptualization and theory of ICP. Why was TBICP more likely to uncover and address these problems? Was it due to teams knowing that they had more time (30-45 or more minutes versus 15 minutes)? Could this be attributed to the team training session, which provided discussions and simulations of how to practice PCC? Were students providing their best care due to positive peer influences or trying to please faculty? Did the team experience promote accountability among professionals? A future study including consecutive interviewing of healthcare team members could provide insight into these outcomes. Whereas in the literature, most IPE/IPC outcomes focus on clinicians' perspectives, future studies should triangulate outcomes by inquiring both into the patients' experience and those of the healthcare team, as with examples in the research designs of J.J.J. van Dongen et al. (2017) and S. N. Shaw (2008). For example, in the present study, to further explore patients' assertions of improved PCC behaviors, professionals on the ICP team could be asked whether they were more likely to engage in PCC behaviors with patients on a team versus how they practice uniprofessionally during *care as usual*. If so, to what do they attribute their changed professional behaviors? Similarly, did clinicians perceive that they developed a more holistic or comprehensive plan of care? During a focus group or individual interviews, clinicians could be asked to discuss the factors influencing their behaviors when practicing as a member of a team. Using a sequential qualitative study design, interviews with professionals could follow those with patients in order to gain insights into what patients identified as figural to them about ICP. Problems with listening and other PCC constructs are not unique to FQHCs, but have been described as a growing problem in ambulatory care with the clinician-centric need "to move people through the process," which Lloyd named as "the ambulatory care paradox" wherein HCPs need the patient to move through quickly, while patients want more time from HCPs (2003, p. 100).

A Model of TBICP.

This study proposes a model of TBICP (see Figures 4.11 and 4.12). It was designed based on raw data, thematic analysis, and categorization of findings grounded in patients' lived experiences of TBICP. While in the early stages of development, and based only on a singular experience of TBICP, the model provides a starting point for discussions of how patients access ICP, how patients perceive and participate in TBICP, and what patients receive from TBICP. The ultimate research goal is to determine the extent to which ICP influences health-related outcomes. While that question is beyond the scope of this paper, the new model of TBICP can be used to conceptualize and pose additional questions, such as *What are the health-related outcomes of the interactions between a patient and an interprofessional team; how does the model of interprofessional collaboration affect those outcomes; and how does the context (such as the training or lack thereof) affect the manner in which interprofessional care is practiced and the resulting outcomes?*

Summary of Theory and Research

Researchers have called for more rigorously designed studies demonstrating improved patient outcomes and/or reduction of errors before accepting ICP as a viable model of care. Kaba, Wishart, Fraser, Coderre, and McLaughlin (2016) published an essay in the journal *Medical Education* questioning the wisdom of promoting “teamwork” and increased collaboration, since having multiple persons on a team could potentially lead to increased errors. Kaba et al., point out that the variables inherent to ICP practice have not been precisely identified, defined, or proven to have a causal relationship to quality improvement in treatment outcomes. However, evidence is accruing in the application of human factors research, crew resource management, and team-based training demonstrating very promising outcomes for teams across multiple high stakes industries such as nuclear reactors, aviation, the military, and healthcare settings such as obstetrics (Agency for Healthcare Research and Quality, 2015; L. Thomas & Galla, 2013; Truijens et al., 2015). The present study offers some insight into how patients place value in an ICP encounter, with an outcome of increased confidence in the plan of care. This finding may signal an important causal link between team-based ICP outcomes and potential improvement in health outcomes. The next step would be to explore whether increased confidence in the plan of care (and other similar constructs resulting from ICP) correlates with improved patient health-seeking behaviors and ultimately health outcomes. Additional studies are needed to elucidate how ICP contributes to quantitative and qualitative health-based outcomes, such as self-efficacy, self-management of health conditions, utilization of healthcare services, improved biometric measures, and decreased measures of sequelae of chronic conditions. This study offers a model of how patients experience team-based ICP, which can be utilized, tested, and expanded by further explorations of ICP.

Implications for Practice

Because a qualitative study takes place within a specific population and context, findings cannot be directly extrapolated to other populations. However, some findings inform abstract theory or the human experience and can be considered for application to other circumstances (Polit & Beck, 2010). Polit and Beck (2010) discuss the importance of translating research findings to practice and policy for the improvement of healthcare. As they state, "Many strategies can be adopted by both qualitative and quantitative nurse researchers to enrich the readiness of their studies for reasonable extrapolation" (p. 1451). Two such research strategies are 1) "analytic generalization," (Firestone, 1993) in which the researcher analyzes specific findings and categorizes and defines them through "broader constructs and abstract theory" (Polit & Beck, 2010), and 2) "transferability" (Lincoln & Guba, 1985), largely a qualitative term referring to richly described qualitative work, whose findings can be interpreted by the reader and applied to another population. Using these two criteria, the present study offers the possibility of both *analytic generalization* using the new Model of TBICP and *transferability* via the thematic findings.

Findings from this study may have particular application to other medically underserved, historically disadvantaged populations. In the current population located in rural Appalachia, participants noted that TBICP brought very high levels of PCC through ICP Inquiry, Problem-Solving, and resulted in Confidence in the plan of care. The people of Appalachia have suffered over the centuries: they have been dispossessed of their land, their natural resources, and of their self-sufficiency when they have moved as a culture from a self-sufficient agrarian lifestyle to work for industries with low paying jobs, as Stoll describes in his carefully researched history of the region, *Ramp Hollow: The Ordeal of Appalachia (2017).* As a result, they use stoicism to cope with outsiders (Russ, 2010). It is significant that an Appalachian patient population allowed the researcher entrée into their lived experiences of TBICP. Their lived experiences provide important information about the use of TBICP in persons living with chronic conditions, in medically underserved and geographically remote regions. Their narratives show TBICP to be helpful on many fronts, ultimately increasing patients' confidence in the plan of care. Similarly, Hepworth et al. (2013) provide an important link between ICP and feelings of "empowerment" in patients with diabetes who significantly improved biometrics as a result of interprofessional care. Could TBICP work as well with other underserved populations in particular? Stigmatized and marginalized populations suffer the worst health outcomes (Williams, Priest, & Anderson, 2016), and Appalachia bears the high proportion of chronic conditions in the USA, with a resultant lower life expectancy (Singh et al., 2017). TBICP may offer a way forward in Appalachia and other underserved populations, and this project demonstrated its initial acceptance.

Further, the sites established to provide medical services to underserved populations may be particularly suited for the development and practice of TBICP. A FQHCs is a nonprofit organization receiving funding from third party payers, government grants, donations, and sliding-scale fees. Often, team-based models of care are part of the aim, ambition, and institutional organization of an FQHC, and some of them apply for the official designation of becoming a PCMH. Being nonprofit and team-oriented, FQHCs have stepped aside from the predominate organizational models in this country (e.g., profit-based and uniprofessional models). Therefore, FQHCs may be particularly well suited for the development of TBICP practice in the USA. In an FQHC, TBICP can be translated to fit the needs of populations, such as people with chronic conditions, or even more specifically focusing TBICP into a diabetes team or a team focusing on treatment of chronic pain as was seen in studies included in Chapter Two. There exists one major barrier, however, and that is staffing FQHCs who already find it difficult to recruit HCPs (National Association of Community Health Centers, 2016). The formation of academic-community health partnerships, such as those that enabled the work of this study, may offer one way forward while future studies investigate whether TBICP outcomes represent a significant improvement in the care of populations, such that it would be incorporated into *care as usual*.

IPE/ICP Teams as a New Model of Care

The present model of TBICP was accomplished via an IPE team of graduate students and faculty who trained in ICP, PCC, and a model of team care. Their practice of TBICP was facilitated by a partnership between the FQHCs and the university. The patients in this population lived one hour from a major medical center, and did not have access to the specialty clinics of more urban populations. The rural populations in this study particularly enjoyed the interprofessional knowledge and the multiple approaches taken during their healthcare visits with the ICP team. Currently there is no pharmacist, registered dietician, or public health professional on staff at either FQHC. Among the few specialists and PCPs, interactions occur casually as part of proximity to one another, but there are no formalized case meetings or shared models constituting what has previously been defined in this study as collaboration. As part of ongoing health professions training and service-learning, similar academic-community health partnerships could enhance and augment the service and practice within FQHCs, by more fully integrating academic ICP teams into the *care as usual*. Similar to Grob (2013), during this study patients observed reciprocity in allowing clinicians (in this case student clinicians) to learn from them, while being helped by them simultaneously. About this experience of helping students one respondent said, “I felt important.” The outcomes of this study fit in well with the WHO’s (2010), “Framework for Action on Interprofessional Education and Collaborative Practice.”

Shared Decision Making.

Mounting evidence points towards shared decision-making (SDM), which recommends setting goals *with* the patient, not *for* the patient. Some patients mentioned that if they had future opportunities with ICP, they would like to set goals with the team to improve their self-management of various issues such as diet, weight, exercise. Their requests are in line with recommendations in the PCC, patient engagement (Carman et al., 2013), and SDM literature that the patient be treated as a co-creator of any healthcare plan. This would be one of the next steps in a future ICP research project resulting from the present study—to ensure that the intervention includes goal setting with each patient. Carman et al. (2013) published a framework for patient engagement, which demonstrates the effects the processes of patient engagement on multiple levels and proposes how such mutual goal setting can affect improved health outcomes.

Sharing Patient Care.

Patients are aware of the burden currently placed upon the uniprofessional HCP practicing *care as usual* to answer all of their needs.

> *I didn’t know how it was going to be…that was the first time that I’d had anything like that. But I really, I think it’s a very good idea. I think it’s something that does really need to be implemented and because it would be, to me, it would take, because I know doctors have so much pressure on them, and they are, and you see now, there’s more and more doctors are just going into special fields. That’s what they go into. You see very few M.D. doctors that have to cover everything. And because I think they see so many patients, and it is so hard for them to, uh, I don’t know how they do it. Cause I know they look at charts*

> *and what their note and stuff is, on everybody that comes in. But they see so many patients every day, and that's where I think the team would help take the pressure off. You know, they're all looking at different aspects of things, and they may see something that the other one doesn't, but it really would be, it'd take some of the stress off of just the one doctor themselves to have to look and answer every problem and have to look at every aspect. Whereas, if you've got a team, as they said, two minds, I guess is better than one (laughter). But I just think that, and that I really, it was a good experience, and I would like to have it again. It would be fine with me that every time I went to the doctor that they would be there for certain things that's going on with me and that's the kind of doctor I would see…I liked it. It was to me, it was a very, it was one of the best doctor visits I have had in a long time (laughter).* (Ruth)

It can be very challenging to recruit physicians to primary care, and a shortage of 20,400 physicians is projected by 2020; family nurse practitioners provide most of the primary care at both FQHCs in this study, and nationally FNPs are anticipated to answer the need for primary care practitioners in the future (Health Resources & Services Administration, 2013). This study demonstrates preliminary evidence of acceptance of TBICP as a viable new model of care, facilitated by FNPs, nutritionists, pharmacists, and public health professionals, for persons living with chronic conditions in two rural FQHCs in two populations in rural, Appalachia. Patients verbalized a growing awareness that there is a strain on the general practitioner to provide a full range of primary care services and coordination of care with help from a team. This study provides a model with the FNP as the primary care practitioner on the ICP team, which could be explored and implemented in other populations.

Academic-Community Partnerships.

Just as underserved community health centers struggle to recruit HCPs, so do training programs in the health sciences struggle to find preceptors and clinical rotations for their students. Could community health center and university partnerships, such as the two described in the present study, co-create a sustainable, mutually beneficial model of IPE/ICP? An unanticipated finding of the present study was that patients enjoy student learners and were more willing to try TBICP because they understood that students would be present. This finding was voiced by participants with a preference for uniprofessional care. About students, one patient said,

> *In my opinion, everyone needs to learn. My opinion on a lot of that is they're more fresh. They're more outgoing. They're more gung-ho about finding stuff. You know, finding what's going on when a lot of times the older licensed provider like that is retired or worn out. They see it all, you know. (laugh) I mean I don't mean nothing bad about anybody, don't get me wrong. I mean, it's just, that's just my opinion of them…Well, you know, a lot of times when they're still students and they've just come out of the school and all, they're more up to date a lot of times with the new things, new techniques, new things going on that the others haven't seen yet. So, that is a plus too.* (Tina)

A mutually beneficial interaction occurs wherein the patient receives care and assistance, while understanding that the learner is gaining invaluable experience. While IPE has largely been an educational activity serving learners, it should be considered as a potential model of care capable of benefitting patients. The finding that patients accept student learners (Lawrence et al., 2015) and appreciate them, as in the present study, merits further exploration.

Recommendations by Patients for Primary Care.

Beyond the proposed model and thematic analyses, this study makes a few additional recommendations, as advised by patients, for the practice of TBICP. Participants would like to schedule ICP team meetings in advance to anticipate adequate time to complete a longer healthcare visit. While some found the meetings timely and efficient, others would have liked advanced notice that it would take more than the usual amount of time. Some want to see the team frequently, and many want telephone access for their specific questions. Many said they would like to alternate appointments as needed between the full ICP team and uniprofessional team members. Several mentioned that they would like to leave the appointment with very specific goals that they had set with the team, and they would like to have support in the form of phone calls between appointments. Some want to add two professions having specialized training in the fields related to musculoskeletal conditions and behavioral and mental health. Patients do not want their “personal” or genitourinary examinations to be attended by a team under ordinary circumstances.

ICP Education and Training Activities.

The possible effects of IPE, simulation, and training were not tested in this study; however, the findings may be correlated with team training. Due to the limitations of this study, a recommendation cannot be made with full confidence. Nevertheless, observations and preliminary findings suggest that it may be advantageous for teams to adopt training materials and methods similar to those described in this study. The manner in which TBICP members were trained, coupled with the integrated findings in this study, uphold the description of the typology of successful ICP teams described by Saint-Pierre et al. (2017)

Limitations of the Present Study and Recommendations for Future Studies

Study Design

Duration, Sampling, and Qualitative Approaches.

This study was cross-sectional. Findings are accordingly limited to a single, novel experience of the phenomenon. A longitudinal study in the present population would provide a deeper understanding of the patient's experience with the phenomenon of TBICP over time. Consequently, the researcher would have greater opportunity for prolonged engagement with the participants, the context, and the phenomenon, facilitating additional observations for triangulation, thick descriptions, and time for member checking through focus groups, for example. Prolonged engagement would also support the development of a grounded theory approach through the zig-zagging (Cresswell, 2015) of data collection and analysis. After the initial coding, the researcher collects more data (usually through interviews), which further inform the coding scheme, such that the coding scheme and subsequent axial coding and categorization of findings evolve into a theory, grounded in participants' experiences and raw data (Cresswell, 2015). In a longitudinal, mixed methods approach, sequential sampling would be conducted at specified endpoints, to coincide with increasing experience of TBICP (e.g., at baseline, after first meeting, second meeting…4th meeting…after last meeting and at one year from 1st meeting).

A longitudinal study, triangulated by interviews with ICP team members and FQHC staff, would provide additional insight into the patient's experience of ICP. Purposeful sampling was practiced; however, the patient's choice to participate in the ICP activity preceding the study may have produced some selection bias. The factors associated with declining an experience of TBICP remain unexplored and would require adding a short survey or interview to elicit further understanding. Over time, prolonged engagement would encourage very “thick descriptions” of patient experiences within the context of the environment and the processes of TBICP. Prolonged engagement would allow for a zig-zag (Cresswell, 2015) approach to data collection and analysis, using open codes and initial categories and themes that evolved over time. After coding, one returns to collect data with further information and questions, then returns with new data, which informs the previous, and the coding scheme evolves over time. Stern (2011) writes that qualitative inductive interactions and techniques, such as these, provide some of the best insights for researchers of the helping professions, such as nursing and social work.

In fact, a constructivist grounded theory approach should be considered, both because this work is done in the service of improving healthcare practice and outcomes, and because of the ethical issues involved in studying participants from a medically underserved region (Glesne, 2016). A constructivist qualitative grounded theory approach should ensure that findings would be rooted in raw data, that the analyses would be sufficiently rigorous, and therefore the findings and conclusions would hold the possibility and promise of contributing to the improvement of healthcare delivery and patient outcomes (Glesne, 2016).

This study, like many narrative inquiries, used purposeful (purposive) sampling, including inviting all those who had experienced the phenomenon. In a future study, a theoretical sampling approach (consistent with grounded theory methodology) might yield even more useful data by introducing the flexibility of adapting interview questions over time to gain a deeper understanding of participants’ lived experiences of the phenomenon (Coyne, 1997; Cresswell, 2015; Kelle, 2011). A longitudinal study, which would offer prolonged engagement with the participants as their experiences of ICP deepened, coupled with theoretical sampling, would be particularly useful to adapt interviewer questions to ongoing interviews and focus groups towards the development of an evolving grounded theory of TBICP, which would be useful to exploring potential connections between TBICP and health-related outcomes. For example, in a study similar to the present, the researcher might decide that it was important to explore the improvement or deterioration of patients' condition(s) in relation to their experiences of TBICP. This would be similar to the work of Hepworth et al. (2013), who utilized critical case sampling to investigate the experiences of persons with diabetes who had achieved the greatest improvements with ICP. Instead of limiting a study to critical case sampling, however, theoretical sampling would follow signals in the data and would not be determined *a priori,* but rather through deep and prolonged engagement with the study participants, the phenomenon, and the data. Over time, through the constant comparison of raw data to emerging codes and categories, theoretical sampling could lead to construction of a theory of TBICP that is trustworthy, grounded, and sufficiently abstract as to be generalizable for testing in other populations (Cresswell, 2015; Kelle, 2011). Coupled with quantitative approaches in a mixed methods study, this would provide a powerful approach to further explorations of TBICP in line with the call from the IOM for mixed methods approaches into health-related outcomes resulting from ICP (2015).

Standardization of the Phenomenon through Protocols.

In this study, while the research phenomenon of interest, TBICP, generally followed the activities described elsewhere in this manuscript, it was administered under an educational activity and fell outside of the parameters and control of the research design. This resulted in having little control of the phenomenon forming the basis for the lived experience, which is less than desirable if a prospective inquiry could proceed otherwise in a more controlled delivery of the phenomenon of interest. In future research, the phenomenon of interest, TBICP, should be delivered in such a way that it consistently adheres to a research protocol specifying the details of the activities involved (e.g., who, what, when, where), and is controlled to achieve a higher fidelity to the intended process (the phenomenon of TBICP). Controlling TBICP as a *research intervention* would support a more rigorous approach, leading to greater transparency in the methodology, stronger reliability of the findings and conclusions, and increased external validity such that other researchers would be able to replicate or vary the phenomenon with confidence.

To achieve greater fidelity, clinicians would be enrolled and approved by the IRB as study as participants. Team-based education, training, and practice would be standardized for high fidelity to the model of TBICP to be delivered and investigated. A research protocol would be followed with each patient. Care would continue to be patient-centered and tailored to the unique circumstances and values of the individual, and this would be reinforced by a protocol that specified objectives linked to PCC. Ideally, student and professional members of the ICP team would remain the same over the course of the project. Certainly, the number and type of professionals participating in TBICP would remain constant, even if personnel changed on occasion

Limitations of the Survey

The survey was not written for this study but was part of an IPE activity preceding the study. They were approved by the UT IRB for inclusion in the present study. Upon review of the surveys collected prior to the study, the positive trend in most of the Likert-scale results was viewed with some skepticism as to whether the results were valid or related to politeness, or gratitude. Four of the Likert-styled questions had previously been validated for use on the CAHPS survey to evaluate the behaviors of uniprofessional HCPs (Centers for Medicare & Medicaid Services, 2017), and although validation for use on one survey is not transferable to another survey, and certainly not for use with an adapted question, previous validation does *suggest* that the statements are well-constructed and have the potential to yield reliable data. More importantly, triangulation of the quantitative Likert data with the survey short responses to open-ended questions (hereafter referred to as short answers or SAs) and the interviews demonstrated that the results were similar (and often nearly identical) across all sources of data.

Use of a Survey without Validating It for the Intended Purpose.

The survey was not validated for its use as an instrument to rate patient satisfaction or experience of TBICP, and it contained biased and poorly worded questions. The use of a non-validated instrument that potentially introduces bias is limited and questionable. That said, the quantitative data collected by the survey were triangulated with other sources of data, which together can be viewed as a viable signal worth further exploration. In this study, more credence can be given to the survey SAs and the thematic analysis of the interviews, which did not contradict survey results, but rather more fully explicated them. In some cases where the Likert-scale questions were confusing, the SAs explained the participants' ratings of the experience. Whereas they could not stand on their own as a reliable source of data, when integrated with qualitative data, the Likert-scale survey data are triangulated, explained, better understood, and supported in this study as was described above in the Discussion of Findings.

Survey Questions Relating to PCC.

Regarding the four PCC questions, the survey data showed strong evidence for these constructs. In the short answers and semi-structured interview narratives, patients repeatedly remarked that the ICP team listened to them, understood their concerns, spoke to them with respect and regard for their ideas for their plan of care, and used language they could understand. These questions were originally written and validated by experts (Agency for Healthcare

Research and Quality, 2016b; Centers for Medicare & Medicaid Services, 2017) for use in primary *care as usual* (uniprofessional HCPs), then adapted for use with IPE/ICP patients by substituting the words “the team” in place of the words “healthcare provider.”

Survey Questions Relating to Patients’ Valuations of TBICP.

While managing to ask about TBICP in relation to constructs of PCC, the survey asked confusing questions while mixing constructs and omitting simpler questions. For example, patients could have been asked about the details of what happened to establish a baseline of activities. Instead, questions mixed constructs or were poorly worded as in, “Would you prefer to see the team for some concerns but not for everything?” To this question participants could indicate “yes, no, or not sure,” yet these data are relatively meaningless given the confusing complexity of the question. The question is partially rescued from complete inutility, however, by its second half: asking patients to explain in a SA. It is only partially rescued, because bias enters again, by asking only those who responded with “yes or not sure,” to explain their answers. Despite the flawed questions, the SAs gave some indication of how, when, and why patients might or might not choose an ICP team in the future (a few respondents wrote to this question, or to what they “most disliked,” that they preferred a uniprofessional HCP or were discomfited by having multiple HCPs in a room).

If the survey had been evaluated by experts in ICP, then all of the questions original to the survey would have been rewritten, because most of them lacked rigorous face and construct validity to measure patients’ valuation of TBICP. To the novice researcher, prior to bracketing out bias, the survey passed muster for providing patient feedback to an educational activity; however, to the more experienced ICP researcher, it is an inadequate instrument. This is not to say that the survey data contain no value, but that they must be reviewed in light of other sources and types of data. Happily, in this case, there are other data to triangulate survey results.

Biased and Confounding Questions.

Survey results of Likert items may have been distorted by central tendency bias (avoiding extreme responses), acquiescence bias (agreeing with questions as they are stated), and social desirability bias (responding to put oneself or organization in the best position) (Statistics Cafe, 2011). The cultural tendencies among Appalachians to be stoic while avoiding conflict and to express more gratitude than mainstream Americans (Russ, 2010) made acquiescence bias most likely; therefore, respondents were interviewed in a culturally competent and respectful manner that encouraged input whether negative, positive, or neutral. If present, these biases might worsen with prolonged engagement with the research team. Therefore employing a researcher whom participants do not associate with the research team might decrease such biases.

Bias, through leading questions, was introduced into the survey by several of the Likert-scale questions. The first of these attempted to ask about the patient's sense of comfort by asking whether the patient had felt "overwhelmed," thereby introducing bias into both that question and the subsequent short answers. Interestingly, despite this interjected negative bias, less than one percent of participants wrote about feeling overwhelmed using those words on short answers. Fewer than four percent expressed similar sentiments of feeling "crowded" or that the room was too small. Nevertheless, it should have been worded in a bias free manner, such as, "I felt comfortable having more than one health care provider on my team," to which participants could respond along a Likert scale.

Rather than asking whether the patient would see an ICP team again given the opportunity, the survey Likert-style question asked whether patients preferred a team *over* a uniprofessional HCP. Similarly, it asked whether patients would recommend a team *over* a uniprofessional HCP to their friends and family. These should have been made simple and free from bias by asking only whether the patient would recommend a team to family and friends.

In addition to being biased, some questions were likely confusing. For example, patients were not given the opportunity to state whether they would accept or decline to see a team again. Instead, they were asked whether they preferred a team to a uniprofessional HCP. This question should not have been posed in a binary, competitive fashion, but rather simply constructed to test one construct such as, “Would you see an ICP team again?”, without excluding or competing with *care as usual.* Single, simple questions could have led into additional questions such as 1) If you answered yes, then when would you see a team and for what concerns? If you answered no, then please explain your answer. As well, these questions would better reflect the future range of possibilities for health care (such as seeing any or all of the following in a variety of configurations over time: a uniprofessional HCP, an ICP team, specialists, and specialty teams).

Improving the Survey

A validated survey could ask many additional useful questions. In this study, it was realized too late that a second page could have been added to gather additional research data. In the future, a fuller set of questions could be asked in the domain of interpersonal behaviors to explore team behaviors and patient perceptions of communication (listening and giving information using understandable language, asking specific questions regarding use of time, giving explanations, and understanding concerns; probes for empathy), respecting the person; shared decision-making (SDM); and knowledge of the person’s social history, historical concerns, and past medical history (Wong & J, 2013). While nearly all of these domains were discussed within the semi-structured interviews, because patients identified them as important aspects of their experiences, these concepts were not specifically inventoried quantitatively or qualitatively. Incorporating some of them in the survey would capture a much larger range of experiences. Surveys could also be used to inventory which specific activities were involved in the patient's experience. A few constructs are given below with rationale. The below constructs should be ordered to begin with collection of the facts, then moving into attitudes and orientation towards the phenomenon, and ending with estimations of likelihood of future actions based on having experienced the phenomenon.

1. TBICP inventory of actions. [establishes services provided and tests fidelity to TBICP model and protocol: helps describe the phenomenon experienced]
   - ☐ Activities related to PCC.
   - ☐ Activities related to specialties of the team (ex., Asking about diet).
   - ☐ Activities related to SDM (ex., Setting goals together).
   - ☐ Examined me (example, listened to my heart or breathing).
   - ☐ Ordered a test (example, urine test, blood draw, or x-ray).
   - ☐ Set up a meeting with a specialist at another clinic (like a foot doctor or eye doctor).
   - ☐ Gave me information.
   - ☐ Set up my next appointment.
   - ☐ Other. Please describe:__________
2. Having to repeat information. (how well was the team listening and communicating)
3. Feeling comfortable talking to the team. (what was the patient's comfort level)
4. Adequacy of services (did the team provide medical care that the patient needed)
5. Receiving adequate support (did the team offer warmth and understanding/empathy)

6. Receiving the right amount of time. (this could be further exploring with too much/too little)
7. Respecting patient-identified concerns
8. Patient involved in plan of care. (shared decision-making)
9. Willingness to see an interprofessional team again. (Likert scale)
10. Recommending TBICP (Likert-scale) [is it worthy of recommending to others]
11. Patient satisfaction with the plan of care. (was the plan perceived as correct and helpful)
12. Inventory of patient confidence to follow the plan. (indicates self-efficacy)
13. Inventory of patient likelihood to follow the plan. (reflects upon PCC, SDM, self-efficacy, and other unknown factors)

Inventory of conditions [validates inclusion criteria; establishes number and variety of healthcare conditions of participants enrolled in the study for context and rich description]

Summary of Survey Limitations and Recommendations

The survey had many flaws. When considering solely the quantitative, Likert-scaled questions, it was not validated for measuring patient experience or satisfaction with an interprofessional team. It has some face and content validity to address four concepts that are used to define PCC. The remaining quantitative questions are so poorly worded and biased that they contain neither face nor construct validity. A better survey could be designed by a rational design: 1) Identifying the constructs and related concepts to inventory; 2) Referring to a review of the best available questions used to inventory patients' experience of primary care, as in Wong and J (2013); 3) writing the questions specifically for TBICP; 4) Conducting a preliminary validation study; and 5) Publishing the findings and continuing to refine the instrument. The preliminary test for validity should follow standard procedures of psychometric theory, as in Nunnally and Bernstein (1994) to improve face, construct, and content validity. Often this includes sending the newly written survey to an ICP content expert to see the survey appears to measure the constructs it was designed to measure. Finally, the present survey did offer some value due to the inclusion of SAs. These should be rewritten, evaluated by content experts, and incorporated into future surveys, since SAs provide simple explanations of the quantitative results and powerful triangulation with the narrative data from interviews. Without the SAs, only the PCC questions from the present study would have provided useful results. The SAs provided some of the clearest data and very strong categorical findings to correlate with the narrative findings.

Limitations of the Semi-Structured Interview and Qualitative Approach

Upon reflection, the interviews went very well, despite being limited by an inexperienced interviewer. The TPRG provided a bracketing interview and peer review, which increased researcher self-reflexivity. Despite limited narrative probes, the interviewer was able to create rapport and elicit a range of narrative experiences. However, there is much room for improvement, and the semi-structured interview guide should be rewritten, starting by identifying the constructs of interest, and creating a series of well-conceived probes. The interview guide contained too many probes, and many of them yielded similar information or were skipped because they had previously been answered. For that reason, the interviews took less than 30 minutes, when around 45 minutes had been anticipated. Creswell recommends designing an interview guide with between five to seven questions based on sub-questions stemming from the central research question, rewritten such that participants can understand them (Cresswell, 2013). The present semi-structured interview guide contained too many probes, and it did not directly ask whether participants would access a team again—it addressed that particular question obliquely by asking when participants would see a solo HCP and when they would see a team (patients who didn’t want to see a team again said so). Participant’s narratives spoke to that question anyway, and the researcher often asked it directly, but it should have been built into the central probes of the interview guide. Rather than making comparisons between TBICP and *care as usual,* it would have been sufficient to adhere to basic descriptions of the experience, because when describing the lived experience of a phenomenon, respondents will often ground the new experience by referring to a past experience, without any prompting. In other words, it should have been left to the participant to determine whether to make such comparisons. If the primary research question(s) had been concerned with a head-to-head comparison of the two models of care, then it would have potentially been an appropriate question.

Following Creswell’s advice, by designing interview questions from the research sub-questions of this study, the present semi-structured interview guide might center on the following: 1) For what concern(s) did the patient see the HCP and the ICP team; 2) What did the ICP Team do during the visit; 3) What was the patient’s role in the TBICP visit; 4) What did the ICP Team recommend, prescribe, or discuss with the patient; 5) How did the patient feel during the visit; 6) What happened during the TBICP visit that would encourage or discourage the patient from seeking future TBICP care; and 7) How has the plan of care been followed since the TBICP visit? This series of questions would identify why the patient sought care, what was done for them, how they participated, and to what extent were they integrated into the worked and SDM of the team, and whether TBICP held any future appeal or challenges to implementation.

Participants' answers would identify what figured centrally to them and thereby how they valued the experience within the context and setting of the phenomenon. Alase (2017) provides a helpful guide on how to apply "interpretative phenomenological analysis" to other types of qualitative inquiries, which would have been very useful in planning the present study.

To reduce researcher bias, it would be important in future studies to practice more frequent self-reflective journaling as a separate practice from writing observations and field notes. Self-reflection proved very important to thematic analysis and critique of the overall limitations of the study, including survey construction.

Suggestions for Future Research

Many suggestions have been made in the preceding sections regarding future studies. Despite its limitations, this study begins to fill the gap in the literature regarding the patient's experience of ICP. It establishes that patients would be interested in future experiences of ICP, and valued many aspects of the model of care, from PCC delivery of care to the interprofessional model of inquiry, problem solving, and consensus building. These outcomes were achieved in this population even with student HCPs, or perhaps *because of* the student HCPs. The most important finding is the theme, *I felt more confident that it would work for me,* because this leads directly to the question of ICP outcomes. The next steps in research and discovery should focus on exploring the extent to which increased confidence affects patient attitudes, behaviors, and health-related outcomes.

Prior to this study, it seemed that the next logical step would be to design and implement a pragmatic randomized control trial (pRCT) investigating health-related outcomes in a well-defined TBICP intervention versus *care as usual* delivered by uniprofessionals. This would still be an excellent approach, and while there are National Institute of Health calls for research proposals involving such trials, there are still many other intermediate studies, which could build towards an excellent pRCT. For example, much more could be learned to identify to what extent this new model of care works to achieve changes in HCP behaviors and changes in patients' behaviors, before going head-to-head with *care as usual.* In the final analysis, pRCTs may become necessary to raise sufficient evidence, interest, and impetus to change the policies and reimbursement structures necessary to monetize support of TBICP. Single payer nations such as Canada have been quicker to adopt this new model of care. More studies with robust evidence will be necessary for the USA to adopt it extensively in primary care. As Brandt et al. (2014) identified, few studies evaluate IPE/ICP outcomes in light of the Triple Aim (Berwick et al., 2008), and of these, none consider all three aims: improved care of populations, improved cost per capita, and improved patient experience of care. The present study offers preliminary evidence from the most important stakeholders and end users of healthcare, patients, that ICP can improve the quality and experience of care in a population living with chronic conditions. Further research is needed to corroborate this finding, and additional studies will be required to discover the financial implications of TBICP.

Conclusion

This project explored the team-based ICP experiences of patients living with chronic conditions in an area where access to care has been historically limited. The two questions guiding this research are answered affirmatively: within the context of two FQHCs in rural, Appalachia, patients locate value in ICP, specifically in the model of TBICP, and would like to access this new model of care again. These answers are supported by the quantitative and qualitative data and the integrated findings. Value is located in the strong interpersonal behaviors and PCC practiced during team-based care; in the experience of having multiple health professionals inquire into the patient's situation; in seeing the ICP teamwork together to identify the etiology of each healthcare concern; in witnessing the ICP teamwork together to find resolutions; and in seeing the ICP team reach agreement on a plan of care—these processes performed by a team of professionals gave patients increased confidence that the ICP plan of care would work for them. The central and supporting themes contribute valuable evidence and understanding toward IPC research, education, and clinical practice. This study takes steps towards a constructivist grounded theory and provides a Model of TBICP. The integrated findings and the Model can inform theory, research, and practice regarding ICP for the benefit of patients. Many suggestions for future studies are described. As ICP studies continue investigating the extent to which ICP can improve health-related outcomes, this study provides a link between TBICP and increased confidence in the plan of care among patients with chronic conditions. Future studies are needed to investigate how TBICP may effect changes in the behaviors of healthcare professionals and patients alike. To what extent and how may TBICP promote a higher standard or quality of care through interprofessional collaboration? If a TBICP plan of care makes patients feel more confident, does that confidence translate into self-efficacy, greater adherence to the plan, and ultimately to improved patient health? Does ICP need to occur synchronously through team-based collaboration for best effects? This study suggests that patients living with chronic conditions in rural Appalachia appreciated the PCC, ICP Inquiry, and ICP Problem-Solving of TBICP, and that TBICP is capable of providing enhanced patient confidence in an interprofessional plan of care.

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Appendices

Appendix A. Terms and Acronyms

Term	Definition
Chronic conditions	Non-communicable diseases lasting longer than three months, such as heart disease, hypercholesterolemia, diabetes mellitus type two, and hypertension.
Family Nurse Practitioner (FNP)	*Autonomously and in collaboration with health care professionals and other individuals, NPs provide a full range of primary, acute and specialty health care services, including: ... Diagnosing and treating acute and chronic conditions such as diabetes, high blood pressure, infections, and injuries* (American Association of Nurse Practitioners, 2017). A Family Nurse Practitioner is board certified nationally in family practice.
FNP Faculty Liaison	A unique role developed in "Improving Clinical Education," (HHS, HRSA #D09HP28674), a Faculty Liaison serves as a clinical instructor in the College of Nursing and as a clinician at the academic community partner FQHC.
FQHC	Federally Qualified Health Center
HCO	Health care organization
HCP	Healthcare Provider (from any profession)
Interprofessional Collaborative Practice (ICP)	When two or more health care professions collaborate intentionally to provide care to a patient.
Interprofessional Education (IPE)	When learners from two or more professions learn together and from one another, "to enable effective collaboration and improve health outcomes" (World Health Organization, 2010). IPE has become an international movement, with multiple organizations committed to its development as a "change in the culture of medicine and health-care (World Health Organization, 2010). Interprofessional education usually describes a pre-licensure or student activity but is also carried out in the workplace as part of ongoing training, especially when teams are involved.
IPE/ICP	An acronym describing the simultaneous activities of IPE and ICP (Brandt et al., 2014).
Patient engagement	The degree to which a patient, or caregiver, is actively involved in health care behaviors, learning activities, and self-care. The definition includes the belief that patients possess the ability to shape and influence the persons and systems providing care (Carman et al., 2013).
PA	Physician's Assistant
Patient-Centered Care (*Person*-Centered Care in other countries) (PCC)	This study will adopt the definition, in which patient-centered care includes the following: 1) Patient involvement in the plan of care and consideration for the individual's particular needs, 2) The relationship between the caregiver(s) and the patient, and 3) The context within which care is given, such as access, barriers, and environment (Kitson et al., 2013).

Term	Definition
Shared Decision Making (SDM)	When a patient (and/or family) make decisions together with healthcare professionals to agree upon the desired goals and outcomes and how to achieve them (M. Gerteis, Edgman-Levitan, Daley, & Delbanco, 1993).
Team-Based Interprofessional Collaborative Practice (TBICP)	Interprofessional practice that occurs in real-time, synchronously, with the patient present. This form of ICP is thought to be the highest form of practice (Interprofessional Education Collaborative Expert Panel, 2011).
The Quadruple Aim	In 2014, an expansion of the Triple Aim to the Quadruple Aim was suggested to include a fourth dimension: 4) decreasing the stress and burnout associated with the workload of HCPs and to improve retention of HCPs in the workplace (Bodenheimer & Sinsky, 2014).
The Triple Aim	An IHI white paper describing health care system-wide change on three dimensions: 1. Improving the patient experience of care, 2. Improving the health of populations, and 3. Decreasing the cost of care per capita (Berwick et al., 2008).
Uniprofessional	One HCP, also called a solo HCP, representing the status quo model of care as usual.

Appendix B. Scoping Review Criteria and Search Terms

Inclusion and Exclusion Criteria for Scoping Review

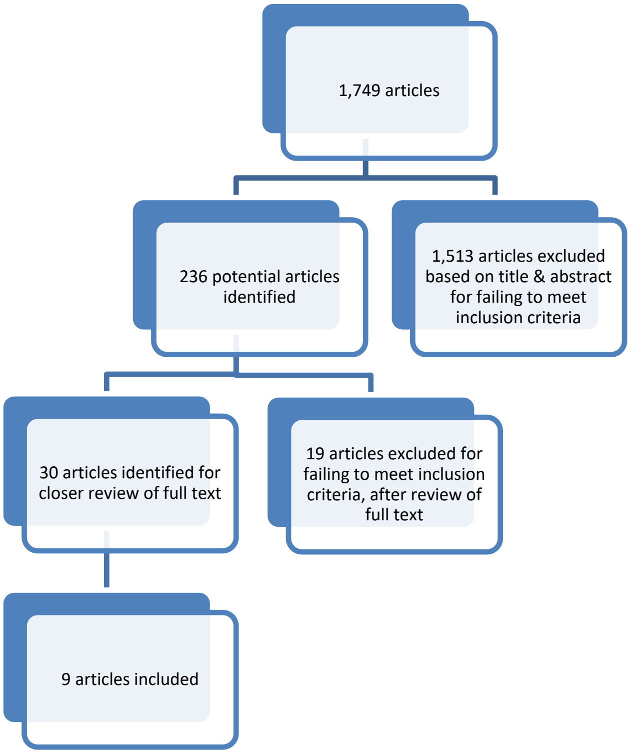
Inclusion Criteria	**Exclusion Criteria**
Study included an IP activity between 2 or more professions	No IP activity, only 1 profession, or patient did not experience the IP activity
Primary research	Secondary/Tertiary sources (e.g., review, opinion, editorial, protocols without data)
Primary care setting	Non-primary care setting(s)
Patient experience or satisfaction outcomes	No patient experience/satisfaction outcomes
Collaboration between HCP professionals	No collaboration described
Published between 1997-2017	Prior to 1997, or from 2018 and later
English	Languages other than English

((((interprofessional OR interdisciplinary OR multidisciplinary OR multiprofessional) AND care AND team*) AND (patient* AND (satisfaction OR perce* OR experience* OR engagement*)))) AND (phenomenological OR "mixed method" OR qualitative OR interview* OR narrative*) AND ("1997/01/01"[PDat]: "2017/12/31"[PDat]).

MeSH and Boolean terms for scoping review

Appendix C. Results of Scoping Review

An initial search of PubMed returned 1,749 articles. These were sorted by type of article, and those not meeting search criteria were excluded (e.g., opinion papers, review articles, summaries, proposals, and descriptions of protocols, or IPE/ICP without any measures or findings related to patient experience. Applying exclusion criteria to titles and abstracts left some 236 articles for closer review. The abstracts of the remaining 236 articles were read (and in many cases the manuscript itself) to determine whether the inclusion criteria were met. Finally, 30 articles were evaluated closely including coding the contents by year published, country, healthcare setting, healthcare problem, classification or type of ICP activity or intervention, central research question, number of participants, population of participants, research methodology, and patient experience themes or quantitative outcomes.



Literature review process of scoping review

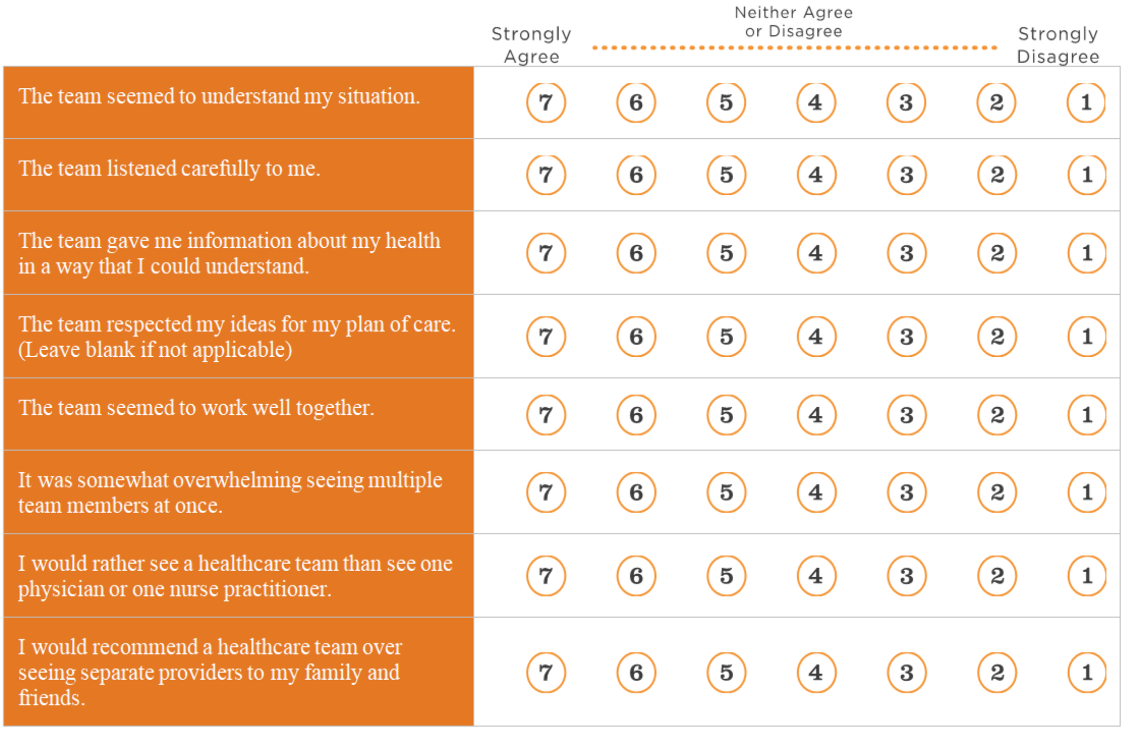
Appendix D. Studies Included in Scoping Review

Authors	Date	Country	IPE Described	Problem	Journal	Study Type	Intervention Model of Care Professions	Setting & Patient Population	# of Patients	Results or Themes
Carr et al.	2012	United Kingdom	Yes	Back pain	Quality in Primary Care	QL	IPE/IPC (postgrad & pts included) MD, RN, physiotherapists	9 primary care practices	11	Value of involving patients; listening; time; learning together
Grohmann et al.	2017	Canada	No	Diabetes	Canadian Fam Physician	QL	diabetes education teams (referred by GP to nurse and dietician=diabetes education team)	11 primary care sites	23	1. Personalized care: care environment, shared decision making, and preference for 1:1 care: 2. Patient-provider relationship
Hepworth et al.	2013	Australia	No	Diabetes	Aust. J. Prim. Health	QL	"Critical case sampling" (Patton, 2002) of patients who could provide rich info. Intervene. of a MDC diabetes services within an outpatient practice	1 large general practice	10	PCC, MDC, and empowering patients.
Lawrence et al.	2015	U.S.	Yes	Acute care (walk-in)	Journal of Interprofes-sional Care	QT	pseudo-experimental study design with non-equivalent groups	Academic health center (student-run free clinic)	ICP=87; usual care=40	Sense of privacy decreased with ICP. Higher satisfaction with ICP on other measures. Outcomes equal or better in ICP than care as usual.
Nasmith et al.	2004	Canada	No	Diabetes	Family Medicine	QL	focus groups of providers and some patients; integrated model of care for pts with diabetes (pilot): dieticians, nurses, physicians	10 family practices (group, solo, & teaching)	322	Patients' perceived benefit to having services that were not otherwise available. Appreciated education & improved comprehension; reduced follow/up visit times.
Richards et al.	2013	United Kingdom	Yes	Depression	BMJ	cluster RCT; QT	cluster RCT; QT	3 primary care sites from large urban areas	ICP=276 ; usual care =305	Client satisfaction significantly higher in ICP group (p<.0001, ES=0.52)

Authors	Date	Country	IPE Described	Problem	Journal	Study Type	Intervention Model of Care Professions	Setting & Patient Population	# of Patients	Results or Themes
Shaw	2008	Canada	No	Chronic or complex conditions	Journal of Interprofes-sional Care	QL	IPC at urban clinic: physician, pharmacist, nurses,	dieticians, family medicine residents.	7	9 themes: rapport, family involvement, coordination of care, referrals, PCC, IPC outcomes, praise for Canadian healthcare, professional roles, organization of IP team
van Dongen	2017	The Netherlands	No	Chronic or complex conditions	Health Expectations	QL	Observations, interviews	8 settings (1 primary care)	11	Professionals should prepare for the meeting to present clients' goals; include patients in team meetings
Zorek et al.	2015	U.S.	No	Wellness exam	Family Medicine	QT	IPE/IPC at IPE clinic for preventative care services	university IP teaching clinic	43	High patient satisfaction scores. Mean > 4.7 (Likert scale of 1 to 5, with 5=excellent)

Appendix E. Patient Survey

Please use the following scale to describe **today's** experience with **the interprofessional healthcare team**. Please mark the number below that best describes your response.



	Strongly Agree			Neither Agree or Disagree			Strongly Disagree
The team seemed to understand my situation.	⑦	⑥	⑤	④	③	②	①
The team listened carefully to me.	⑦	⑥	⑤	④	③	②	①
The team gave me information about my health in a way that I could understand.	⑦	⑥	⑤	④	③	②	①
The team respected my ideas for my plan of care. (Leave blank if not applicable)	⑦	⑥	⑤	④	③	②	①
The team seemed to work well together.	⑦	⑥	⑤	④	③	②	①
It was somewhat overwhelming seeing multiple team members at once.	⑦	⑥	⑤	④	③	②	①
I would rather see a healthcare team than see one physician or one nurse practitioner.	⑦	⑥	⑤	④	③	②	①
I would recommend a healthcare team over seeing separate providers to my family and friends.	⑦	⑥	⑤	④	③	②	①

Would you prefer a team-based approach for some concerns but not for everything?
☐ Yes ☐ No ☐ Not sure
If yes or not sure, please describe your thoughts about this:

What did you **like** most about the team-based approach?
What did you **dislike** most about the team-based approach?
What is your gender?
What is your age?
☐ 18 to 24 ☐ 25 to 34 ☐ 35 to 44 ☐ 45 to 54 ☐ 55 to 64
☐ 65 to 74 ☐ 75 or older

What is the highest grade or level of school that you have completed?
☐ 8th grade or less
☐ Some high school, but did not graduate
☐ High school graduate or GED
☐ Some college or 2-year degree
☐ 4-year college graduate
☐ More than 4-year college degree

Would you be willing to talk with a health care researcher about your experiences in an interview during **the next 3 days**? □ Yes □ No If YES, complete page 2.

Patients who complete **an interview** in the next 3 days will receive a $**20 Wal-Mart card** in thanks for sharing their thoughts and their time. The interview will take 15 to 60 minutes, depending on the length of your answers.
If you would like to participate, please tell us how we can reach you:

Name:
Address:
Phone:

Where would you like to meet?
___ at my house (the patient's home)
___ Wal-Mart, in the Subway deli
___ Food City café
___ Other (please describe):
___ I can't meet in person, but I can talk on the phone (number, if other than above)

--Detach & give below to patient----------------------------------

You have an interview with Katie Morgan, from the University of Tennessee, about your experiences with the interprofessional care team.

Your name will not be used and your answers will help us improve team-based care.
We are meeting on ________________________________.
(day of week & date)

We are meeting at _________________AM/PM at __________________________.
(location)
You will receive a $20 Wal-Mart card for taking your time to talk to us.

Please call Katie Morgan at (865) 405-4656 if you need to change or cancel your interview. If you send a text, please give your name so she will know who is sending the message

Thank you for participating.

Appendix F. Semi-Structured Interview Guide for ICP Patients

Informed consent will be obtained prior to starting the interview.

Thank you for meeting with me today. My name is _______and I am a health researcher at The University of Tennessee in_________. Thank you for talking to me today about your recent visit with a team of providers from different health professions. Very little is known about patients' experiences with healthcare teams. We want to learn from patients about what it is like to see a team. Your name will not be used, or kept with document of your interview, so all your comments will be confidential.

Our conversation will last around 15 to 45 minutes. May I record our conversation in order to keep good notes?
(If "yes," then say, "Thank you—I will use the recording to help me take good notes. Afterwards the recording will be destroyed."
If "no," then say, "That is ok. I will take notes while we are talking.")

[Start recording, if consent given]

"I'd like to remind you that you can decline to answer any questions or stop the interview at any time. Do you have any questions before we begin?"

1. To begin, how long have you and your family lived in this area? [are you from this area originally?]

2. How long have you been a patient at [name of clinic]?

3. What are the most important things that you would look for in a healthcare provider and his or her staff?

4. Thinking back to your visit a day or two ago with the interprofessional healthcare team, please explain <u>what</u> happened, <u>how</u> it happened, and <u>how it felt</u> to you?
   Probes: there were several different types of professionals present—which ones did you see?
   What did the team do?
   How did they do it?
   How did working with a team feel to you?
   "Please explain what happened, how it happened, and how it felt to you" (Agency for Healthcare Research and Quality, 2016a).

5. When you think about the things that are most important to you in a healthcare visit, how well did the healthcare team measure up?

6. How was your visit with the interprofessional healthcare team <u>similar</u> to seeing your usual healthcare provider?
   Probe: how are the two styles of healthcare visit the same?

7. How was your visit with the interprofessional healthcare team <u>different</u> from seeing your usual healthcare provider?
8. What do you think <u>influenced or affected</u> how you experienced interprofessional team-based healthcare?
   Probes: how were you feeling on that day?
   What happened before you got there or at the visit that might have influenced your experience?
   What people, places, things, or situations affected how you were feeling that day?

9. What went well during your visit with the interprofessional healthcare team?
10. What could have gone better during your visit with the interprofessional healthcare team?
    Probes: What didn't go well? How would you change it?

11. How would you describe your general health?
    Probe: What are some health challenges you face (or conditions you manage)?

12. How might a healthcare team help you with your health?
    Probe: what might a healthcare team to do to help you with your health?

13. When would you prefer to see a healthcare team and for what concerns or conditions?

14. When would you prefer to see a solo or individual healthcare provider and for what concerns or conditions?

15. If you could design your own healthcare team, who would you put on the team?
Probe: what types of clinicians, people, or professions would you want to be on your team to help you manage your health?

16. What are any other thoughts or suggestions you may have about your experiences with an interprofessional healthcare team?

17. What else do you think is important to tell me?
****
[demographic questions below will be administered on paper]

In general, how would you rate your overall health?
__1 Poor
__2 Fair

__3 Good
__4 Very Good
__5 Excellent

In general, how would you rate your overall mental or emotional health?
__1 Poor
__2 Fair
__3 Good
__4 Very Good
__5 Excellent

What is your age?
__18 to 24
__25 to 34
__35 to 44
__45 to 54
__55 to 64
__65 to 74
__75 or older

Are you male or female?
__Male
__Female
__Other:____________________

What is the highest grade or level of school that you have completed?
__8th grade or less
__Some high school, but did not graduate
__High school graduate or GED
__Some college or 2-year degree
__4-year college graduate
__More than 4-year college degree

Are you of Hispanic or Latino origins or descent?
__Yes, Hispanic or Latino
__No, not Hispanic or Latino

What is your race? Mark one or more.
__White
__Black or African American
__Asian
__Native Hawaiian or Other Pacific Islander

__American Indian or Alaska Native
__Other: Please describe___________________________________

Do you have health insurance coverage?
__Yes
__No (if no, go to #24)
__Not sure (if no, go to #24)

Which kind of insurance do you have?
__Commercial (ex., Aetna, Blue Cross, Cigna, Humana, UnitedHealth)
__Medicaid (ex., TennCare)
__Medicare
__Other, please describe__________________________

This is the last question. Would it be okay for me to contact you again if I have other questions about your experience with the interprofessional healthcare team? _______

"Thank you for taking the time to talk to me today about your experiences. Your answers will help us learn more about patients' experiences of interprofessional healthcare teams. Here is a $20 gift card to Wal-Mart for your time and sharing your experiences with us."

"If you have questions or would like to receive a written copy of this interview, please free to contact me to request a copy or ask me any questions." [researcher name and contact information on the Informed Consent form]

Appendix G. Interview Protocol and Rationale

Question	Justification/Rationale
How long have you lived in this area? - Are you from this area originally?	Seeks to establish rapport. Describes population interviewed (are they Appalachian?).
How long have you been a patient at [name of FQHC]?	Describes length of relationship with FQHC. Length of time at the FQHC may have bearing on the patient's experience of the phenomenon.
What are the most important things that you would look for in a healthcare provider and his or her staff?	Source: Agency for Healthcare Research and Quality (2016b) Question intended to establish rapport and comfort in discussing healthcare in general, and soon thereafter the experience of team-based ICP. Identifying what is most important establishes the groundwork for comparing and contrasting experiences of care.
Thinking back to your visit a day or two ago with the interprofessional healthcare team, please explain what happened, how it happened, and how it felt to you? - There were several different types of professionals present—which ones did you see? - What did the team do? - How did they do it? - How did working with a team feel to you?	Source: Fashioned after the question, "Please explain what happened, how it happened, and how it felt to you" (Agency for Healthcare Research and Quality, 2016b). Elicits objective description of events. Requests subjective description of experience.
How was your visit with the interprofessional healthcare team <u>similar</u> to seeing your usual healthcare provider? - Probe: how are the two styles of healthcare visit the same?	Question provides an analysis from the patient's perspective of what was similar. Identifying commonalities may lead to discovery of differences.
How was your visit with the interprofessional healthcare team <u>different</u> from seeing your usual healthcare provider?	Question asks the patient to discuss what, if anything, was different about the care experienced during team-based ICP.
When you think about the things that are most important to you in a healthcare visit, how well did the healthcare team measure up?	Source: Agency for Healthcare Research and Quality (2016b) Question asks the patient to discuss his or her lived experience of the phenomenon compared to their ideal standard of care.

Question	Justification/Rationale
What do you think influenced or affected how you experienced interprofessional team-based healthcare? - How were you feeling on that day? - What happened before you got there or at the visit that might have influenced your experience? - What people, places, things, or situations affected how you were feeling that day?	Allows for identification of possible external sources of bias, which may have influenced the person's experience. Phenomenological approaches "situate the body fully in its 'landscape;'" nothing is experienced except through the body (Pollio, Henley, & Thompson, 1997).
What went well during your visit with the interprofessional healthcare team?	Helps identify which aspects of the experience were deemed positive. Solicits critical feedback.
What could have gone better during your visit with the interprofessional healthcare team? - What didn't go well? - How would you change it?	Helps identify which aspects of the experience were problematic or negative. Solicits critical feedback.
How might a healthcare team help you with your health? - What might a healthcare team do to help you with your health?	Asks the patient to imagine ways a team might be helpful in the future. Indirectly asks whether the patient would consider seeing an ICP team again.
For what concerns or conditions would you prefer to see - a healthcare team? - a solo or individual healthcare provider?	Asks for specific feedback about the application of team-based ICP. Elicits important perspectives on whether, and if so, how patients prefer to experience this mode of care.
If you could design your own healthcare team, who would you put on the team? - What types of clinicians, people, or professions would you want to be on your team to help you manage your health?	Were the professions represented sufficient to meet the needs of those they served, or would different professions better the respondents [purposive sample of adults with a chronic conditions(s) living in Appalachia]?
Do you have any other thoughts or suggestions about your experiences with an interprofessional healthcare team?	Elicits original comments and encourages new observations.
What else do you think is important to tell me?	Asks for any additional information that was not previously shared.

Appendix H. Kruskal Wallis Tests

Effect of Age Range on Outcomes

Test Statistics[a,b]

	Understood my situation	Listened carefully to my	Gave me information that I could understand	Respected my ideas for my plan of care	Worked well together	The team was overwhelming	I would rather see a healthcare team	I would recommend a team
Chi-Square	7.530	8.815	5.134	7.077	5.561	2.439	4.127	2.788
df	6	6	6	6	6	6	6	6
Asymp. Sig.	.275	.184	.527	.314	.474	.875	.660	.835

a. Kruskal Wallis Test

b. Grouping Variable: Age

Effects of Education on Constructs

Test Statistics[a,b]

	understand my situation	listened carefully to me	the team gave me information about my health in a way that I could understand	respected my ideas for my plan of care	seemed to work well together	It was overwhelming seeming multiple team members at once	I would rather see a healthcare team than see one physician or one nurse practitioner	I would recommend a team over seeing several providers to family & friends
Chi-Square	1.294	3.380	5.157	3.778	5.447	5.565	8.093	6.528
df	5	5	5	5	5	5	5	5
Asymp. Sig.	.936	.642	.397	.582	.364	.351	.151	.258

a. Kruskal Wallis Test

b. Grouping Variable: 8th=1; some HS=2; HS=3; some coo=4; 4hr=5; >4yrs=6

Effects of Gender on Outcomes

Test Statistics^{a,b}

	understand my situation	listened carefully to me	the team gave me information about my health in a way that I could understand	respected my ideas for my plan of care	seemed to work well together	It was overwhelming seeming multiple team members at once	I would rather see a healthcare team than see one physician or one nurse practitioner	I would recommend a team over seeing several providers to family & friends
Chi-Square	.358	.676	.291	.015	.332	1.434	3.507	5.911
df	1	1	1	1	1	1	1	1
Asymp. Sig.	.549	.411	.590	.901	.565	.231	.061	.015

a. Kruskal Wallis Test

b. Grouping Variable: (for Q: female=0, male=1)

Appendix I. Survey Short Answers – When Is ICP Preferred?

Following are written responses to the short answer survey question, Would you prefer a team-based approach for some concerns but not for everything (yes, no, not sure)? If yes or not sure, please describe your thoughts about this.

Positive Findings

Theme: *Two heads are better than one* and *more than one opinion*

- Two brains are better than one concept
- When not sure what is going on. More heads are better to see problems
- Multiple ideas
- Two heads are better than one
- I would rather have a team-based approach on everything, two heads are better than one.
- I think it would be good because each member of the team may be able to offer different outlook on the problem.
- More opinions and most likely more likely to get one to really listen.
- The team approach is preferable. The different individuals "bounce" ideas off of one another to come up with a better treatment plan.
- Different people have different ideas and approaches and one may work better than another one for the patient
- It's not just one opinion
- More than one opinion
- Seem to approach an issue is different ways, instead of one person
- Got more input from a team
- If someone was needing advice on things that they offered it would be great
- For more serious health conditions, a team would be beneficial and provide more peace of mind.
- Outstanding team
- They had more ideas, had a lot of input
- More options on things.

Theme: *Not for everything, for somethings they can help.*

- Just for input on some things
- Seems ok for some things
- Seems good for initial visit but may not be necessary for follow up
- Not for everything, for somethings they can help with things.
- Some things are more private
- Prefer one for gynecology concerns (intimate issues)
- It would be good for some care but not for female care like a pap exam.
- It don't bother me, but I'd rather my physician than an NP. It could be ok. It didn't bother me to see a team.
- For more personal matters, I would prefer just one or maybe two physicians.

Theme: *I can see the advantages of the team approach*

- They understand
- It went great today. This was my first time with a team-based approach. I liked it!
- Very nice to me and listened
- Worked well
- I can see the advantages of the team approach. Less visits and less travel.
- Would prefer to try before coming to a conclusion
- Team did a good job.
- Yes, worked well together.
- Specialist can help

Neutral Findings

Theme: *I am comfortable with either or.*

- Just Whatever Is Best
- Haven't had any thoughts about this
- Whichever gives me the adequate care is preferred
- No thoughts
- Taking care of different levels of health and concerns
- Depends on what you are there for
- I am comfortable with either or.
- The team does what a physician does
- I think it is an information overload but i also feel this approach could suit many people by saving time.

Negative Findings

- Having more people in the room could make patient a little uncomfortable
- May be overwhelming to some

Appendix J. Survey Short Answers – What Do Patients Like Most?

Following are written responses to the survey short-answer question, What did you like most about the team-based approach?

Positive Findings

Theme: *They were very respectful and welcoming*

- They were very respectful and welcoming
- Knowledgeable and concern for person being seem
- They listened
- Listened to me
- They were nice about everything
- Being kind and understanding
- They were very nice and I guess more opinions are a good thing
- Felt good about
- They were very thorough and polite
- They were very helpful
- They helped in every way
- They was very friendly/also was very informative
- Friendly and open
- They were very nice
- They were friendly and took the time to listen
- Smile
- Respectful**,** friendly
- All were attentive and listened to me
- The way they presented themselves and their concern about me
- Listened carefully
- They understand my problems
- Everyone was nice. No attitude problem
- Very concerned about me, more time to talk
- Everyone was great
- They all listened to me and what I need
- They worked together and listened to you and seemed more concerned.
- They ask about a lot of things. Seem to care.
- They were thorough and concerned. Each did their best.
- Wonderful experience
- They were all very nice.
- Everyone was great
- Everyone was friendly and polite
- Very friendly and helpful.
- Theme**:** ***M****ultiple points of view more options*
- They covered separate issues and each had good suggestions
- Could get a different feedback and they could consult with each other
- Thorough-what one may miss another may catch plus specific area of specialty

- Having a person for each plan of care per diagnosis
- Able to understand from different approaches
- They all ask questions to help understand what's going on
- The fact that you are getting more than one opinion/approach to your situation
- The fact that they did "bounce" ideas off of one another
- Easier to understand with a team
- Seemed like less time spent, both listened carefully
- Seeing different points of view
- Different opinions
- They may ask questions others didn't think of
- Ideas that they came up with
- They worked together and didn't overpower one another
- Lots of minds going one direction
- That they discuss things together
- Different ideas and input
- They had ideas to the problems
- Different ideas and opinions
- I liked that i got different opinions and they worked together to find a solution
- They communicate with each other. Debate to make the best choice of for healthcare.
- Multiple points of view more options
- Different views
- Information from more than 1 person
- They talk to me about everything
- They talked to me about everything
- More minds to think about things
- I feel like one might have a different insight on an issue than another and could help explore more options to help.
- Very knowable
- Variety of questions
- They can feed off each other and remind one another of items to address
- Different areas of expertise
- Good team work
- Different specialists working together
- You have someone from different special
- More than one brain working on a problem
- You get different opinions
- More thorough evaluation
- Well rounded knowledge
- Well rounded
- Knowledgeable and multiple ideas
- Everyone worked together and explained stuff
- Everything was approached w/ different professionals
- Seems like they have more people working on your issues
- More thorough. Took time to follow up and call pharmacy. Took more time.

- Thorough, provided a lot of information
- They worked well together to figure out a solution for me
- Different ways of looking at your problems. Seemed more thorough
- Got to the root of my problems
- They covered a lot of my medical concerns
- Collaboration and agreement on best possible plan of care.
- I would rather have more than one opinion to go off of
- I like that each member of the team has a specific area of expertise.
- Everything at once
- More specialized information
- The pharmacy student picked up different diagnosis.
- They talked back and forth and came up with better ideas.
- Wide base of knowledge and care
- They worked together for a common good to help me.
- Multiple aspects of health at one time.
- You talked to everyone at the same time. You did not have to tell the same thing over and over to different people. Having them in at the same time, someone might figure out something the others miss.
- They worked together.

Additional Positive Remarks

- I think it’s a good thing
- Being able to talk about prescription issues with pharmacist
- Didn't take long
- New experience, very comfortable
- Both were great really wanted to help and give feedback. They took their time.
- Individual (one on one)
- Like the whole thing
- Advice for things i can do to help the thyroid
- Meeting with the nutritionist (student)
- It gave me an idea about other options for my health plan.
- I understand they are here to learn so i can understand the need for them to come in. I did not mind helping them out.
- Tried to help me with my diet and stuff. It did help me. I know I need it.

Neutral Findings

- It was ok
- Don't matter

Negative Findings

- Some things are ok, but when really sick one on one is better
- Getting to go home

Appendix K. Survey Short Answers – What Did Patients Dislike Most?

Following are written responses to survey short answer question, What did you dislike most about the team-based approach?

Theme: *So many people*

- More people at once increases an already "white coat" high BP
- Having so many people
- Have to retell some of the same stuff
- Too many people at one time
- Small room for multiple people
- Time consuming
- A little overwhelming all at once.
- Can be less personal in a group setting.
- Room was too small
- More time than normal
- Takes too long to get what you need--why give your info to different personnel to pass on--other than one time.
- It can be somewhat overwhelming for me, only because of my feelings due to depression.
- My social anxiety, not sure which team member to focus on when talking to both.
- Less time with PCP

Theme: *Information overload*

- It is a lot of information all at once. It almost feels chaotic. I would prefer one on one interaction
- Overwhelming information overload
- Took a long time to review my whole medical chart.
- Other
- Don't like coming to the doctor
- Not big on doctors, overwhelming
- Still in pain
- Just one of them talked the other ones did not say much.
- Need one person
- Theme: did not dislike anything about teams approach
- I can't think of any negatives. I would need to experience this approach more to form an opinion.
- Did not dislike anything about teams approach
- Didn't dislike anything
- Didn't dislike anything.
- Didn't see thing that i disliked.
- Had no dislikes

- I did not dislike any of it.
- I did not dislike anything
- I don't dislike any of it. Having no team means only one opinion.
- I like them all
- Loved it all
- N/A x 13
- No
- No dislike
- No dislikes to speak of
- None
- Not a thing
- Not sure
- Nothing x 30
- Nothing really x 4
- Respectful very nice
- There was nothing I disliked, they were wonderful
- They were great
- Was a good experience.

Appendix L. Word Count of Transcripts and Survey Short Answers Analyzed by NVivo (QSR International Pty Ltd., 2017)

Word	Weighted Percentage	Word	Weighted Percentage
pharmacist	28	totally	15
hear	25	left	14
concerns	22	love	14
listened	22	medication	14
medicines	22	thorough	14
pharmacy	22	weight	14
helped	20	longer	13
bad	19	pressure	13
nutrition	19	honestly	12
plan	19	interesting	12
listen	18	knowledgeable	12
change	17	learning	12
check	17	listening	12
concerned	17	meet	12
describ3	17	moved	12
definitely	17	drug	11
leave	17	effects	11
looked	17	follow	11
matter	17	heard	11
medical	17	honest	11
months	17	hours	11
notes	17	ideas	11
originally	17	improve	11
sick	17	kinds	11
teams	17	disease	10
comfortable	16	explained	10
eat	16	friendly	10
explain	16	specialists	10
wait	16	sweet	10
appreciate	15	young	10
checked	15	dietician	9
diet	15	differently	9
figure	15	helping	9
information	15	measured	9
minutes	15	symptoms	9
pain	15	treat	9
Suggestions	15		

Appendix M. Bracketing (Researcher's Self-Reflection Statement)

Like many others in the health sciences, the researcher affirms the predominating assumptions regarding IPE/ICP—that interprofessional team based training improves safety, decreases errors, and improves outcomes by focusing on the human factors that cause most errors. Human factors training and team training (*e.g.*, TeamSTEPPS©—an evidence-based model used to teach teams process improvement) has been used by the military, aviation, and nuclear industries to prevent accidents and improve the quality of team outcomes (Agency for Healthcare Research and Quality, 2015). The researcher was introduced to TeamSTEPPS© in 2011, at the University of Washington, during a Josiah Macy, Junior Foundation program "Train-the-Trainer Faculty Development" and Capstone experience for all their health sciences majors. It was a formative experience. During a simulated code, students who had never before met one another learned to apply team skills to stabilize a patient in crisis and reduce triage time by half--not by learning or acquiring new medical techniques, but by applying team-based skills and strategies. Their triage time was well below the national average for professional teams in similar circumstances. Team-based skills were demonstrated with great efficacy and that lesson has stayed with the researcher. Since then she has been a co-researcher on a faculty IPE team teaching and implementing IPE in pediatric practice through telehealth to increase access to care in underserved pediatric populations, and she has co-authored and led a subsequent HRSA-funded project, which included teaching and implementing IPE in rural academic-partner community health clinics. These experiences led to a growing curiosity about the patient's experience of care. It was thought that patients might feel overwhelmed with so many people in the examination room. While the researcher believed in effecting safer and higher quality of care through interprofessional teams was possible, she did not necessarily believe that teams of health professions learners could achieve a high standard of care with limited, but focused, training and clinical experience together. The positive outcomes of this project were therefore surprising and very interesting to the researcher.

Vita

Since 2011, Katherine Morgan, MSN, FNP-BC, has taught IPE in higher education and led teams of students to practice ICP in urban, pediatric populations and in rural, family practices in Federally Qualified Health Centers. She received a National Health Service Corp (NHSC) Faculty Loan Repayment Award as a faculty member at a health professions school, the University of Tennessee College of Nursing. As a Family Nurse Practitioner and Clinical Instructor at The University of Tennessee since 2007, she has developed partnerships between the University of Tennessee College of Nursing and its community partners, such as the Federally Qualified Health Centers in this study. She is co-author of a 2.1 million-dollar HRSA-funded project for 2015-2018, "Improving Clinical Education," which included extending telehealth services to school-based clinics administered by an academic-community health partner; training students across four health professions and delivering care through IPE/ICP; integrating population health into the Family Nurse Practitioner curriculum; and providing leadership programs to clinical and administrative staff of academic-community health partners through a collaboration between the College of Nursing and the Haslam College of Business. For this work, she and her colleagues received a Community Partnership award in 2018, from Cherokee Health Systems, an academic-community health partner to The University of Tennessee's College of Nursing. Morgan holds a Master of Science Degree in Biology, and studied Zoology at the University of Florida before becoming Laboratory Section Chief in a nutrition research lab, and later an Associate Researcher at The University of Tennessee's Center for Environmental Biotechnology. These formative and career experiences in the sciences, combined with a Master of Science in Nursing and a Bachelor of Arts in English from Sewanee—The University of the South, brought her to a love of research and interdisciplinary studies, with a focus on a constructivist approach to health research. She is a candidate for the Doctorate of Philosophy in Comparative and Experimental Medicine, one of only two interdisciplinary doctoral programs at The University of Tennessee.